ASME ANNUAL **AM-5**

Indexes to 1966 Publications

SOCIETY RECORDS

January 1967

WHERE TO FIND THE ASME TRANSACTIONS IN THE UNITED STATES AND IN OTHER COUNTRIES • INDEXES TO ASME PAPERS AND PUBLICATIONS • INDEX TO MECHANICAL ENGINEERING • INDEX TO TRANSACTIONS OF THE ASME •

TRANSACTIONS OF THE ASME

Published by

THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS

TRANSACTIONS OF THE ASME

January 1967

SOCIETY RECORDS

VOLUME 89 JANUARY 1967

EDITORIAL STAFF
Editor, J. J. JAKLITSCH, JR.
Consulting Editor, SCOTT KNOKE
Art Editor, HENRY BALFOUR

POLICY BOARD, COMMUNICATIONS
Chairman and Vice-President
MARTIN GOLAND

Members-at-Large
F. J. HEINZE
J. D. QUINN
H. A. NAYLOR
K. A. GARDNER

Policy Boards
Basic Engineering, W. M. ROHSENOW
General Engineering, R. E. ABBOTT
Industry, J. de S. COUTINHO
Power, MANFRED ALTMAN
Research, JOSEPH KESTIN
Codes and Stds., R. P. TROWBRIDGE

OFFICERS OF THE ASME
President, J. H. HARLOW
Exec. Dir. & Sec'y, O. B. SCHIER, II
Treasurer, E. J. KATES
Asst. Treas., E. J. SCHWANHAUSSER

Published by The American Society of Mechanical Engineers. Publication office at 20th and Northampton Streets, Easton, Pa. 18042. The editorial department is located at the headquarters of the Society, 345 East Forty-Seventh Street, New York, N. Y. 10017. Cable address, "Mechaneer," New York.

TRANSACTIONS OF THE ASME is indexed by the Engineering Index, Inc.

CONTENTS

Indexes to 1966 Publications

Where You Will Find ASME Transactions

In United States and Territories SR-1

In Other Countries SR-3

Indexes to ASME Papers and Publications SR-5

Regular Society Publications, 1966 . . . . . SR-5

Publications Issued in 1966 . . . . . SR-5

How to Find Papers Presented at 1966 ASME Meetings SR-5

Currently Available ASME Publications SR-5

Periodicals SR-8

ASME Miscellaneous Papers, 1965 . . . . . SR-9

Index to Mechanical Engineering, 1966 . . . . . SR-17

Index to Transactions of the ASME, 1966 . . . . . SR-51

Where you will find the ASME Transactions

In United States and Territories

Alabama

Auburn — Auburn University
Main and Engineering Libraries
Tuskegee — Tuskegee Institute
School of Engrg.—Library
University — University of Alabama
Engineering Library

Arizona

Tempe — Arizona State University
Mechanical Engineering Library
Tuscon — University of Arizona
University Library
Mech. Engrg. Dept. Library

Arkansas

Fayetteville — University of Arkansas
Engineering Library

California

Berkeley — University of California
General Library
Davis — University of California
College of Agriculture Library
Long Beach — Calif. State College
Los Angeles — University of Southern California
Engineering Library
Monterey — U. S. Naval Postgraduate School
Library
Pasadena — California Institute of Technology
Engineering Library
Sacramento — Sacramento State College
Main Library—M. E. Dept.
Santa Clara — University of Santa Clara
Mechanical Engineering Dept.
Varsi Library
Public Library
San Diego — San Diego State College
San José — San José State College
Main Library
Science and Technical Library
Stanford — Stanford University
Durand Room, Mech. Engrg. Dept.
Engineering Library

Colorado

Boulder — University of Colorado
University Library
Denver — University of Denver
Mary Reed Library
Fort Collins — Colorado State University
Morgan Library
Golden — Colorado School of Mines
Arthur Lake Library

Connecticut

Bridgeport — University of Bridgeport Library
East Windsor Hill — Rensselaer Polytechnic Institute
Hartford Graduate Division
New Haven — Yale University
Engineering Library, Dunham Laboratory
Storrs — University of Connecticut
Wilbur Cross Library
Engineering Library—Engrg. Bldg. I

Delaware

Newark — University of Delaware
Memorial Library

District of Columbia

Washington — George Washington University
Engineering Branch Library
University Library
Catholic University of America
Engineering and Mathematical Library
Howard University
Engineering and Architecture Library
Library of Congress
National Bureau of Standards Library
U. S. Patent Office
Scientific Library

Florida

Coral Gables — University of Miami Library
Gainesville — University of Florida
Engineering Sciences Library

Georgia

Atlanta — Georgia Institute of Technology Library

Idaho

Moscow — University of Idaho
University Library
Engineering Reading Room

Illinois

Chicago — Illinois Institute of Technology
Library, Technology Center
Mech. Engrg. Dept. Library
Evanston — Northwestern University
Technological Institute Library
Peoria — Bradley University Library—Periodical Dept.
Springfield — Illinois State Library
Urbana — University of Illinois
Main Library
Engineering Library

Indiana

Lafayette — Purdue University Libraries
Notre Dame — University of Notre Dame
Engineering Library
Terre Haute — Rose Polytechnic Institute Library
Valparaiso — Valparaiso University
University Library
Valparaiso Library

Iowa

Ames — Iowa State University of Science and
Technology Library
Iowa City — University of Iowa
University Library

Kansas

Lawrence — University of Kansas
Engineering Library
Manhattan — Kansas State University
Mech. Engrg. Dept. Library
University Library
Wichita — Wichita State University
Alba Library

Kentucky

Lexington — University of Kentucky
Engineering Library, Anderson Hall
Louisville — University of Louisville
Speed Scientific School Library

Louisiana

Baton Rouge — Louisiana State University Library
Lafayette — University of Southwestern Louisiana
Stephens Memorial Library
New Orleans — Tulane University
Howard-Tilton Memorial Library
Engineering Library
Ruston — Louisiana Polytechnic Institute Library

Maine

Orono — University of Maine Library

Maryland

Baltimore — Johns Hopkins University Library
College Park — University of Maryland
Engineering and Physical Sciences Library

Massachusetts

Amherst — University of Massachusetts
Engineering School Library
Boston — Northeastern University
Engineering Library
Cambridge — Massachusetts Institute of Technology
Hayden Library—Periodical Dept.
Lowell — Lowell Technological Institute Library
Medford — Tufts University Library
Mechanical Engineering Library
Anderson Hall
Worcester — Worcester Polytechnic Institute
Central Library
Mech. Engrg. Dept. Library

Michigan

Ann Arbor — University of Michigan
Engineering Library
Detroit — University of Detroit
Library—Periodical Dept.
Wayne State University
Kresge-Hooker Scientific Library
East Lansing — Michigan State University
Library—Acquisition Dept.
Houghton — Michigan Technology University
Saulte Ste. Marie — Lake Superior State College of
Michigan Tech. University

Minnesota

Minneapolis — University of Minnesota
Engineering Library

Mississippi

State College — Mississippi State University
General Library
University — University of Mississippi
Engineering Library
University Library

Missouri

Columbia — University of Missouri
Engineering Library
Rolla — University of Missouri at Rolla
MSM Library
St. Louis — Washington University Libraries

Montana

Bozeman — Montana State University

Nebraska

Lincoln — University of Nebraska
Acquisitions Dept.

Nevada

Reno — University of Nevada
Engineering Library
Main Library

New Hampshire

Durham — University of New Hampshire Library
Hanover — Dartmouth College
Thayer School of Engineering Library

New Jersey

Hoboken — Stevens Institute of Technology Library
Newark — Newark College of Engineering Library
New Brunswick — Rutgers University Library
Princeton — Princeton University
Firestone Library
Engineering Library
Teaneck — Fairleigh-Dickinson University
Main Library

New Mexico

Albuquerque — University of New Mexico
Mech. Engrg. Dept. Library
University Library
University Park — New Mexico State University Library

New York

Albany — New York State Library
Bronx — State University of New York
Maritime College Library
Brooklyn — Polytechnic Institute Library
Pratt Institute Library
Brooklyn Public Library
Science and Industry Division
Buffalo — State University of New York at Buffalo
Lockwood Memorial Library
Ithaca — Cornell University
Engineering Library, Carpenter Hall
Jamaica, L. I. — Queens Borough Public Library
New York — College of the City of New York
Technology Library
Mech. Engrg. Dept. Library
Columbia University
Egleston Library
Cooper Union
Main Library
Bateman Library, Mech. Engrg. Dept.
Engineering Societies Library
New York University
Engineering Library
Mech. Engrg. Dept. Library
Public Library—Science and Technology Div.
Potsdam — Clarkson College of Technology
College Library
Mech. Engrg. Dept. Library
Rochester — University of Rochester
College of Engrg. Library
Rush Rhees Library
Schenectady — Union College Library
Syracuse — Syracuse University
Engineering Library, White Hall
Troy — Rensselaer Polytechnic Institute Library

North Carolina

Durham — Duke University
College of Engineering Library
University Library
Raleigh — North Carolina State University at Raleigh
D. H. Hill Library
Mech. Engrg. Dept. Library

North Dakota

Fargo — North Dakota State University Library
Grand Forks — University of North Dakota
Main Library
Student Section Library, Mech. Engrg. Dept.

Ohio

Ada — Ohio Northern University
Heterick Library
Akron — University of Akron
Science and Technology Library
University Library
Athens — Ohio University
Mech. Engrg. Library
University Library
Cincinnati — University of Cincinnati
Engineering Library
University Library
Cleveland — Case Institute of Technology
Mechanical Engineering Library
The Cleveland State University
Columbus — Ohio State University
Main Library
Dayton — Engineers Club of Dayton
University of Dayton
Mech. Engrg. Dept. Library
Toledo — University of Toledo Library
Youngstown — Youngstown University Library

Oklahoma

Norman — University of Oklahoma
Engineering Library
Stillwater — Oklahoma State University Library

Oregon

Corvallis — Oregon State University Library
Portland — Portland Library Association Library

Pennsylvania

Bethlehem — Lehigh University Library
Easton — Lafayette College
Van Wickle Library
Lewisburg — Bucknell University Library
Mech. Engrg. Dept. Library
University Library
Philadelphia — Drexel Institute Library
The Franklin Institute
University of Pennsylvania
Library, School of Engineering
Pittsburgh — Carnegie Institute of Technology
The Hunt Library
Carnegie Library of Pittsburgh
Mellon Institute of Industrial Research
Library
University of Pittsburgh
George M. Bevier Engineering Library
Swarthmore — Swarthmore College Library
University Park — Pennsylvania State University
Engineering Library
Villanova — Villanova University Library

Puerto Rico

Mayagüez — University of Puerto Rico Library

Rhode Island

Kingston — University of Rhode Island Library
Providence — Brown University
Physical Sciences Library
Providence Engineering Society

South Carolina

Clemson — Clemson University
College Library
Mech. Engrg. Library
Columbia — University of South Carolina
McKissick Library Science Room
Mech. Engrg. Dept. Library

South Dakota

Brookings — South Dakota State University
Lincoln Memorial Library
Rapid City — South Dakota School of Mines and Technology
Mech. Engrg. Dept. Library

Tennessee

Knoxville — University of Tennessee
Engineering Library
Nashville — Vanderbilt University
Engineering and Science Reading Room
of Joint University Libraries

Texas

Austin — University of Texas
Engineering Library, Taylor Hall
Beaumont — Lamar State College of Technology
Engineering Library
Main Library
College Station — Texas Agricultural and Mechanical University
Library—Serials Record
Cushing Library
Dallas — Southern Methodist University
Engineering School Libraries
Science Library
Houston — William Marsh Rice University
Fondern Library
University of Houston Libraries
Lubbock — Texas Technological College
Main Library
Engineering Library
San Antonio — Texas Natural Resources Foundation Library

Utah

Logan — Utah State University Library
Salt Lake City — University of Utah
Engineering Library
Provo — Brigham Young University
Central Library
Mech. Engrg. Dept. Library

Vermont

Burlington — University of Vermont Library
Billings Library
Northfield — Norwich University
Mechanical Engineering Dept.

Virginia

Blacksburg — Virginia Polytechnic Institute
Main Library
Charlottesville — University of Virginia
Engineering Library, Thornton Hall

Washington

Pullman	Washington State University Science Library—Holland Library
Seattle	Seattle University Library University of Washington Engineering Library Mech. Engrg. Library

West Virginia

Morgantown	West Virginia University Engineering Library

Wisconsin

Madison	University of Wisconsin College of Engineering Library
Milwaukee	Marquette University Engineering Library Memorial Library

Wyoming

Laramie	University of Wyoming Coe Library

IN OTHER COUNTRIES

Argentina

Buenos Aires	Sociedad Científica

Australia

Adelaide	Public Library of South Australia
Melbourne	State Library of Victoria
Nedlands	University of Western Australia
Perth	Library Board of Western Australia
Sydney	Public Library of Sydney Public Library of New South Wales
Tighes Hill	Newcastle University of N.S.W. College Library

Belgium

Louvain	University of Louvain Library

Brazil

São Paulo	Centro Technico de Aeronautica

Canada

Alberta	University of Alberta Cameron Library
Hamilton	Hamilton Public Library
Kingston	Queen's University Mech. Engrg. Dept. Library
Montreal	McGill University Library
Ontario	University of Waterloo Library
Ottawa	Carleton University Main Library
Toronto	University of Toronto Mech. Engrg. Library University Library
Vancouver	University of British Columbia Applied Science Reading Room Mech. Engrg. Dept. Library

Chile

Santiago	Universidad de Chile Biblioteca Central, Escuela de Ingeniería

England

Birmingham	Birmingham Reference Library
Bristol	University of Bristol Library
Cambridge	University of Cambridge
Liverpool	Liverpool Public Libraries
London	City and Guild College Library Institution of Electrical Engineers Institution of Mechanical Engineers Royal Aeronautical Society
Manchester	Manchester College of Science and Technology
Newcastle Upon Tyne	North East Coast Institution of Engineers & Shipbuilders

France

Paris	The American Library

Germany

Berlin-Charlottenburg	Technische Universität Berlin
Hanover	Bibliothek der Technischen Hochschule
Karlsruhe	Bibliothek der Technischen Hochschule
München	Bibliothek des Deutsches Museums
Stuttgart	Bibliothek der Technischen Hochschule

Holland

Delft	Bibliotheek Technische Hogeschool
Rotterdam	Nationaal-Technische Instituut voor Scheepvaart en Luchtvaart

India

Poona	Poona College of Engineering

Italy

Rome	Comitato Nazionale per l'Energia Nucleare Servizio Informazioni-Biblioteca

Northern Ireland

Belfast	Queen's University David Keir Branch Library

Mexico

Mexico City	Ciudad Universitaria Facultad de Ingeniería

New Zealand

Christchurch	University of Canterbury

Scotland

Glasgow	Royal College of Science and Technology Andersonian Library Mitchell Library

South Africa

Cape Town	University of Cape Town Library
Johannesburg	Johannesburg City Library Seymour Memorial Branch

Sweden

Gothenburg	Chalmers University of Technology Library
Stockholm	K. Tekniska Högskolans Bibliotek

Turkey

Istanbul	Robert College Library

Wales

Cardiff	Cardiff Public Libraries

Indexes to

ASME Papers and Publications

THIS and the following pages will serve as a guide to the current publications of the ASME.

Regular Society Publications, 1966

Mechanical Engineering, monthly (see index on page SR-17)
ASME Transactions, quarterlies (see combined index on page SR-51):
Series A, *Journal of Engineering for Power*
Series B, *Journal of Engineering of Industry*
Series C, *Journal of Heat Transfer*
Series D, *Journal of Basic Engineering*
Series E, *Journal of Applied Mechanics*
ASME Mechanical Engineers' Catalog and Product Directory 1967 edition
Applied Mechanics Reviews, monthly

Publications Issued in 1966

BOOKS AND REPORTS
Applied Mechanics Surveys
BioMedical Fluid Mechanics Symposium
Cavitation in Fluid Machinery Discussions
Cavitation Forum
Deep Space and Missile Tracking Antennas
Fifth U. S. National Congress of Applied Mechanics
Flow Measurement Symposium
Friction and Lubrication in Metal Processing
1966 National Transportation Symposium
New Design Standards for Flexible Couplings
Proceedings, 1966 Diesel and Gas Engine Power
Proceedings, 1966 Incinerator Conference
Reliability and Maintainability
The Study of Missiles Resulting from Accidental Explosions
Symposium on Biomechanics
Symposium on Heat Treated Steels for Elevated Temperature Service

AMERICAN STANDARDS
Carbide Blanks and Cutting Tools
Dimensioning and Tolerancing for Engineering Drawings
Electrical and Electronics Diagrams
Fluid Power Diagrams
Forged Steel Fittings, Socket Weldings and Treaded
Gages and Gaging for Unified Screw Threads
General Purpose Semi-Tubular Rivets, Full Tubular Rivets and Rivet Caps
Hobs
Hose Coupling Screw Threads
Knurlings
Liquid Petroleum Transportation Piping Systems
Petroleum Refinery Piping
Refrigeration Piping
Supplement to Terminology for Automatic Control
Wrought Copper and Wrought Copper Alloy Solder — Joint Drainage Fittings

ASME STANDARDS
APS-1 1966 Recommended Guide for the Control of Dust Emission — Combustion for Indirect Heat Exchangers

POWER TEST CODES
Centrifugal Pumps
Gas Turbine Power Plants
Safety and Relief Valves with Atmospheric or Superimposed Back Pressure
Special Methods of Flow Measurement
Volumetric (Displacement) Meters

How to Find Papers Presented at 1966 ASME Meetings

THE technical programs of the meetings of the Society and of its Professional Divisions have been published in *Mechanical Engineering* and may be located by consulting the index on pages SR-17 to SR-49. Many of these papers will be published in *Mechanical Engineering* or the *Transactions* and may be located by reference to the indexes of these publications.

Currently Available ASME Publications

ASME members may purchase most of the publications listed below at a 20 percent discount. Handling and mailing charges are added to price when payment does not accompany order.

AMERICAN STANDARDS

Safety Codes

A17.1—1965. Elevators, Dumbwaiters, Escalators and Moving Walks. $6.50
A17.2—1960. Practice for Inspection of Elevators. $4.00 (1965 Addendum 50¢)
A90.1—1949 (Reaffirmed 1956). Manlifts. $1.50
A113.1—1964. Mechanized Parking Garage Equipment. $3.75
B15.1—1953 (Reaffirmed 1958). Mechanical Power Transmission Apparatus. $3.00
B20.1—1957. Conveyors, Cableways and Related Equipment. $2.50
B30.1—1943 (Reaffirmed 1952). Jacks. $1.50
B30.2—1943 (Reaffirmed 1952). Cranes, Hoists, Derricks. $4.00
B56.1—1959. Powered Industrial Trucks. $2.00
B77.1—1960. Aerial Passenger Tramways. $2.80 (1965 Addenda 50¢)

Safety Codes—Nuclear

N6.1—1964. Safety Standard for Operational with Fissionable Materials Outside Reactors. $1.50
N6.2—1965. Safety Standard for Design Fabrication and Maintenance for Nuclear Power Reactors. $1.50

Piping

A13.1—1956. Scheme for Identification of Piping Systems. $1.50
Code for Pressure Piping
B31.1—1955 (1964 Addendum). Code for Pressure Piping. $4.00
B31.3—1966. Petroleum Refinery Piping. $5.00
B31.4—1966. Liquid Petroleum Transportation Piping Systems. $4.00
B31.5—1966. Refrigeration Piping. $4.00
B31.8—1963 (1964 Addendum). Gas Transmission and Distribution Piping Systems. $4.00
B31.8b—1966. Gas Transmission & Distribution Piping, Supplement. $1.00

Pipe Flanges and Fittings

B16b1—1931 (Reaffirmed 1952). C.I. Pipe Flanges & Flanged Fittings or 800 Psig Hydraulic Pressure. $1.50
B16b2—1931 (Reaffirmed 1952). C I. Pipe Flanges and Flanged Fittings, 25 Lb. $1.50
B16.1—1960. C I. Pipe Flanges and Flanged Fittings, Class 125. $2.00
B16.2—1960. C I. Pipe Flanges and Flanged Fittings, Class 250. $2.00
B16.3—1963. Malleable-Iron Screwed Fittings, 150 and 300 Lb. $2.00
B16.4—1963. C I. Screwed Fittings, 125 and 250 Lb. $2.00
B16.5—1961. Steel Pipe Flanges and Flanged Fittings (150, 300, 400, 600, 900, 1500 and 2500 Lb) With Applicable Requirements Relative to Flanged End and Butt-Welding End Valves. $4.00
B16.9—1964. Steel Butt-Welding Fittings. $2.00
B16.10—1957. Face-to-Face and End-to End Dimensions of Ferrous Valves. $2.00
B16.11—1966. Forged Steel Fitting, Socket Welding and Threaded. $2.00
B16.12—1965. C I. Screwed Drainage Fittings. $2.00
B16.14—1965. Ferrous Plugs, Bushings, and Locknuts with Pipe Threads. $1.50
B16.15—1964. Cast-Bronze Screwed Fittings, 125 and 250 Lb. $2.00
B16.18—1963. Cast-Bronze Solder-Joint Pressure Fittings. $2.00
B16.20—1963. Ring-Joint Gaskets and Grooves for Steel Pipe Flanges. $1.50
B16.21—1962. Nonmetallic Gaskets for Pipe Flanges. $1.50
B16.22—1963. Wrought-Copper and Wrought-Bronze Solder-Joint Fittings. $1.50
B16.23—1960. Cast-Bronze Solder-Joint Drainage Fittings. $2.50
B16.24—1962. Bronze Flanges and Flanged Fittings, 150 and 300 Lb. $1.50
B16.25—1964. Buttwelding Ends. $1.50
B16.26—1958. Brass Fittings for Flared Copper Tubes. $1.50
B16.27—1962. Plastic Insert Fittings for Flexible Polyethylene Pipe. $1.50
B16.28—1964. Wrought Steel Buttwelding Short Radius Elbows and Returns. $1.50
B16.29—1966. Wrought Copper and Wrought Copper Alloy Solder — Joint Drainage Fitting. $2.00

Pipe and Pipe Threads

B2.1—1960. Pipe Threads (Except Dryseal). $3.50
B2.2—1960. Dryseal Pipe Threads. $4.00
B2.4—1966. Hose Coupling Screw Threads. $2.25
B26—1925 (Reaffirmed 1953). Fire-Hose Coupling Screw Thread. $1.50
B36.10—1959. Wrought-Steel and Wrought-Iron Pipe. $2.00
B36.19—1965. Stainless Steel Pipe. $1.50

Plumbing

A40.1—1935. Cast Iron Soil Pipe and Fittings. $2.00
A40.4 and 6—1943. Air Gap and Back Flow Preventers in Plumbing Systems. $2.00
A40.5—1943. Threaded Cast Iron Pipe for Drainage, Vent and Waste Services. $1.50
A40.8—1955. National Plumbing Code. $4.50

Fasteners and Washers

B5.20—1958. Machine Pins. $1.50
B18.1—1965. Small Solid Rivets. $2.50
B18.2.1—1965. Square and Hex Bolts & Screws. $3.00
B18.2.2—1965. Square & Hex Nuts $3.00
B18.3—1961. Socket Cap, Shoulder and Set Screws. $3.00
B18.4—1960. Large Rivets. $2.00
B18.5—1952 (Reaffirmed 1959). Round Head Bolts. $2.00
B18.6.1—1961. Slotted and Recessed Head Wood Screws. $2.00
B18.6.2—1956. Hexagon and Slotted Head Cap Screws, Square Head Set Screws, and Slotted Headless Set Screws. $2.00
B18.6.3—1962. Slotted and Recessed Head Machine Screws and Machine Screw Nuts. $4.00
B18.6.4—1958. Slotted and Recessed Head Tapping Screws and Metallic Drive Screws. $5.00
B18.7—1966. General Purpose Semi-Tubular Rivets, Full Tubular Rivets, Split Rivets and Rivet Caps. $2.00
B18.8—1950 (Reaffirmed 1958). High-Strength, High-Temperature Internal Wrenching Bolts. $1.50
B18.9—1958. Plow Bolts. $2.00
B18.10—1963. Track Bolts and Nuts. $2.00
B18.11—1961. Miniature Screws. $2.00
B18.12—1962. Glossary of Terms for Mechanical Fasteners. $4.00
B18.13—1965. Screw and Washer Assemblies. $2.50
B27.1—1965. Lock Washers. $2.50
B27.2—1965. Plain Washers. $2.00

Screw Threads

B1.1—1960. Unified Screw Threads. $5.00
B1.2—1966. Gages and Gaging for Unified Screw Threads. $5.00
B1.7—1965. Nomenclature, Definitions, and Letter Symbols for Screw Threads. $2.25
B1.9—1953. Buttress Screw Threads. $1.50
B1.10—1958. Unified Miniature Screw Threads. $1.50
B1.11—1958. Microscope Objective Thread. $1.50
B1.12—1963. Class 5 Interference—Fit Thread. $1.50

Cutting Tools and Machine Tool Elements

B5.1—1949. T-Slots, Their Bolts, Nuts, Tongues, and Cutters. $1.50
B5.3—1960. Milling Cutters. $3.00
B5.4—1959. Taps—Cut and Ground Threads. $2.50
B5.5—1959. Rotating Air Cylinders and Adapters. $1.00
B5.6—1962. Jig Bushings. $3.00
B5.7—1954. Circular and Dovetailed Forming Tool Blanks. $2.00
B5.8—1954 (Reaffirmed 1959). Chucks and Chuck Jaws. $2.00
B5.9—1960. Spindle Noses for Tool Room Lathes, Engine Lathes, Turret Lathes, and Automatic Lathes. $3.00
B5.10—1963. Machine Tapers. $3.00
B5.11—1965. Spindle Noses and Adjustable Adapters for Multiple Spindle Drilling Heads. $1.50
B5.12—1958. Twist Drills. $2.50
B5.15—1960. Involute Splines, Serrations and Inspection. $5.00
B5.16—1952. Accuracy of Engine and Tool Room Lathes. $1.50
B5.17—1958. Markings for Identifying Grinding Wheels and Other Bonded Abrasives. $1.50
B5.18—1960. Spindle Noses and Arbors for Milling Machines. $1.50
B5.19—1946 (Reaffirmed 1953). Life Tests of Single-Point Tools. $1.50
B5.22—1950. Single Point Tools and Tool Posts. $1.50
B5.23—1958. Inserted Blade Milling Cutter Bodies. $1.50
B5.25—1950. Punch and Die Sets for Two-Post Punch-Press Tools. $1.50
B5.27—1959. Drill Drivers. $1.50
B5.28—1958. Mounting Dimensions of Lubricating and Coolant Pumps for Machine Tools. $1.50
B5.29—1959. High Speed Steel and Cast Nonferrous Single Point Tools and Tool Holders. $1.50
B5.32 and 33—1953. Designation and Working Ranges of Grinding Machines. $1.50
B5.34—1956. Life Tests for Single-Point Tools of Sintered Carbide. $1.50
B5.35—1957. Machine Mounting Specifications for Abrasive Discs and Plate Mounted Wheels. $1.50
B5.38—1958. Driving and Spindle Ends for Portable Air and Electric Tools. $1.50
B5.39—1961. Spindle Flanges for Precision Boring Machines. $1.50
B5.40—1962. Spindle Noses and Tool Shanks for Horizontal Boring Machines. $2.50
B94.1—1964. Blanks and Semi-Finished Blanks for Solid Carbide Taps. $1.50
B94.2—1964. Reamers. $3.00
B94.3—1965. Straight Cut-Off Blades for Lathes and Screw Machines. $1.50
B94.4—1965. Identification System for Throw Away Inserts for Cutting Tools. $1.50
B94.5—1966. Carbide Blanks and Cutting Tools. $3.00
B94.6—1966. Knurlings. $2.00
B94.7—1966. Hobs. $2.50

Gear Design, Dimensions, Inspection

B6.1—1932. Spur Gear Tooth Form. $1.50
B6.5—1954. Letter Symbols for Gear Engineering. $1.50
B6.6—1946. Gear Tolerances and Inspection. $1.50
B6.7—1956. 20-Degree Involute Fine-Pitch System for Spur and Helical Gears. $1.50
B6.9—1956. Design for Fine-Pitch Worm Gearing. $1.50
B6.10—1954. Gear Nomenclature. $1.50
B6.11—1956. Inspection of Fine-Pitch Gears. $3.00
B6.12—1964. Nomenclature for Gear Tooth Wear and Failure. $1.50
B6.13—1965. System for Straight Bevel Gears. $2.00

General

B4.1—1955. Preferred Limits and Fits for Cylindrical Parts. $1.50
B32.1—1952 (Reaffirmed 1959). Preferred Thickness for Uncoated, Thin, Flat Metals (Under 0.250 In.). $1.50
B40.1—1939 (Reaffirmed 1953). Indicating Pressure and Vacuum Gages. $1.50
B46.1—1962. Surface Texture. $2.50
B49.1—1947. Shaft Couplings. $1.50
B55.1—1961. Specifications for Multiple V-Belt Drives. $2.00
C85.1—1963. Terminology for Automatic Control. $3.00
C85.1a—1966. Supplement to Terminology for Automatic Control. $1.50
MH 1.1—1965. Pallet Terminology and Sizes. $3.50

Drafting Practices

Y14.1—1957. Size and Format. $1.50
Y14.2—1957. Line Conventions, Sectioning, and Lettering. $2.00
Y14.3—1957. Projections. $2.00
Y14.4—1957. Pictorial Drawings. $2.00
Y14.5—1966. Dimensioning and Tolerancing for Engineering Drawings. $6.00
Y14.6—1957. Screw Threads. $2.00
Y14.7—1958. Gears, Splines, and Serrations. $2.00
Y14.9—1958. Forgings. $2.00
Y14.10—1959. Metal Stampings. $2.00
Y14.11—1958. Plastics. $2.00
Y14.14—1961. Mechanical Assemblies. $2.00
Y14.15—1966. Electrical and Electronics Diagrams. $4.00
Y14.17—1966. Fluid Power Diagrams. $2.00

Charts and Illustrations

Y15.1—1959. Illustrations for Publications and Projection. $2.00
Y15.2—1960. Time Series Charts. $4.50

Symbols and Abbreviations

Letter Symbols

Y10.2—1958. Letter Symbols for Hydraulics. $1.50
Y10.7—1954. Letter Symbols for Aeronautical Sciences. $2.50
Y10.8—1962. Letter Symbols for Structural Analysis. $1.50
Y10.9—1953. Letter Symbols for Radio. $1.50
Y10.10—1953. Letter Symbols for Meteorology. $1.50
Y10.11—1953 (Reaffirmed 1959). Letter Symbols for Acoustics. $1.50
Y10.12—1953. Letter Symbols for Chemical Engineering. $2.00
Y10.14—1959. Letter Symbols for Rocket Propulsion. $2.50
Y10.15—1958. Letter Symbols for Petroleum Reservoir Engineering and Electric Logging. $2.00
Y10.16—1954. Letter Symbols for Shell Theory. $1.50
Y10.17—1961. Guide for Selecting Greek Letters Used as Letter Symbols for Engineering Mathematics. $1.50
Z10.1—1941. Abbreviations for Scientific and Engineering Terms. $1.00
Z10.3—1948. Letter Symbols for Mechanics for Solid Bodies. $1.00
Z10.6—1948. Letter Symbols for Physics. $3.00

Graphical Symbols

Y32.3—1959. Graphical Symbols for Welding. $3.00
Y32.4—1955. Graphical Symbols for Plumbing. $1.00
Y32.7—1957. General Symbols for Use on Railroad Maps and Profiles. $1.50
Y32.10—1958. Graphical Symbols for Fluid Power Diagrams. $1.50
Y32.11—1961. Graphical Symbols for Process Flow Diagrams in Petroleum and Chemistry Industries. $1.50
Y32.12—1960. Metallizing Symbols. $1.50
Y32.17—1962. Nondestructive Testing Symbols. $1.00
Z32.2.3—1949 (Reaffirmed 1953). Graphical Symbols for Pipe Fittings, Valves and Piping. $1.00
Z32.2.4—1949 (Reaffirmed 1953). Graphical Symbols for Heating, Ventilating, and Air Conditioning. $1.50
Z32.2.6—1950 (Reaffirmed 1956). Graphical Symbols for Heat-Power Apparatus. $1.00

ASME BOILER AND PRESSURE VESSEL CODE

1965 Editions of (with all Addenda up to Dec. 31, 1966)
Power Boilers (Section I). $10.00
Material Specifications (Section II). $19.00
Nuclear Vessels (Section III). $10.50
Heating Boilers (1966 Ed.—Section IV). $7.50
Recommended Rules for Care of Power Boilers (1966 Ed.—Section VII). $5.50
Unfired Pressure Vessels (Section VIII). $11.50
Welding Qualifications (Section IX). $5.50
1965 Case Interpretations Booklet (All cases up to Dec. 7, 1966). $19.75
Case Interpretations and Addenda Subscription. $15.00 (Through June 30, 1968)

POWER TEST CODES AND AUXILIARY SECTIONS

PTC 1—1945. Code on General Instructions. $2.50
PTC 2—1945. Code on Definitions and Values. $3.00
PTC 3.1—1958. Diesel and Burner Fuels. $5.00
PTC 3.2—1954. Solid Fuels. $4.00
PTC 3.3—1944. Gaseous Fuels. $3.00
PTC 4.1—1964. Steam-Generating Units. $5.75
PTC 4.2—1944. Coal Pulverizers. $2.00
PTC 5—1949. Reciprocating Steam Engines. $2.00
PTC 6—1964. Steam Turbines. $4.50
PTC 6A—1964. Appendix A To Test Code For Steam Turbines. $4.50
PTC 7—1947. Reciprocating Steam-Driven Displacement Pumps. $1.00
PTC 7.1—1962. Displacement Pumps. $3.00
PTC 8.2—1965 Centrifugal Pumps. $3.75
PTC 9—1954. Displacement Compressors, Vacuum Pumps and Blowers. $4.00
PTC 10—1965. Compressors and Exhausters. $5.75
PTC 12.1—1955. Feedwater Heaters. $3.00
PTC 12.2—1955. Steam Condensing Apparatus. $4.00
PTC 12.3—1958. Deaerators. $4.00
PTC 14—1955. Evaporating Apparatus. $3.00
PTC 16—1958. Gas Producers and Continuous Gas Generators. $4.00
PTC 17—1957. Internal Combustion Engines. $5.00
PTC 18—1949. Hydraulic Prime Movers. $4.00
PTC 20.1—1958. Speed-Governing Systems for Steam-Turbine Generator Units. $4.00
PTC 20.2—1965. Overspeed Trip Systems For Steam Turbine-Generator Units. $3.75
PTC 21—1941. Dust Separating Apparatus. $3.00
PTC 22—1966. Gas Turbine Power Plants. $4.50
PTC 23—1958. Atmospheric Water Cooling Equipment. $4.00
PTC 24—1956. Ejectors and Boosters. $4.00
PTC 25.2—1966. Safety and Relief Valves with Atmospheric or Superimposed Back Pressure. $4.50
PTC 26—1962. Speed-Governing Systems for Internal Combusion Engine-Generator Units. $3.00
PTC 27—1957. Determining Dust Concentration in a Gas Stream. $4.00
PTC 28—1965. Determining Properties of Fine Particulate Matter. $4.50
PTC 29—1965. Speed-Governing Systems for Hydraulic Turbine-Generator Units. $4.50

Instruments and Apparatus

PTC 19.1—1935. General Considerations. $2.00
PTC 19.2—1964. Pressure Measurement. $5.25
PTC 19.3—1961. Temperature Measurement, Chapters 1-9. $6.00
PTC 19.5.1—1964. Weighing Scales. $2.75
PTC 19.5.2—1966. Volumetric (Displacement) Meters. $2.50
PTC 19.5.3—1965. Fluid Velocity Measurement. $3.25
PTC 19.5.4—1959. Flow Measurement, Chapter 4. $6.00
PTC 19.5.5—1966. Special Methods of Flow Measurement. $3.00
PTC 19.6—1955. Electrical Measurements in Power Circuits. $3.50
PTC 19.7—1961. Measurement of Shaft Horsepower. $4.00
PTC 19.8—1960. Measurement of Indicated Horsepower. $2.00
PTC 19.10—1936. Flue and Exhaust Gas Analyses. $2.00
PTC 19.11—1959. Quality and Purity of Steam. $4.00
PTC 19.12—1958. Measurement of Time. $2.00
PTC 19.13—1961. Measurement of Rotary Speed. $3.00
PTC 19.14—1958. Linear Measurements. $2.50
PTC 19.16—1965. Density Determinations of Solids and Liquids. $2.75
PTC 19.17—1965. Determination of the Viscosity of Liquids. $3.00
PTC 19.20—1945. Smoke Density Determinations. $2.00
PTC 19.21—1965. Leak Detection and Leakage Measurement. $3.75

ASME STANDARDS

No. 101—1949. Operation and Flow Process Charts. $2.00
No. 102—1947. Self-Appraisal Form for Use of Industrial Plants. $2.00
No. 104—1954. One-Piece Metallic Piston Rings. $1.50
No. 108—1955. Recommended Practices for the Design of Turbine Lubricating Systems. $2.00
No. 111—1960. Recommended Practices for the Design of Marine Propulsion Turbine Lubricating Systems. $1.50
No. 112—1961. Diaphragm Actuated Control Valve Terminology. $1.50
No. 113—1964. ASTM-ASME Recommended Practices for the Flushing And Cleaning of Marine Propulsion Turbine Lubricating Systems. $1.50
No. 114—1964. ASTM-ASME Recommended Practices for the Purification of Marine Propulsion Turbine Lubricating Oil. $1.50
APS-1—1966. Recommended Guide for the Control of Dust Emission—Combustion for Indirect Heat Exchangers. $2.00

BOOKS AND REPORTS

Air Pollution

Manufacturers of Dust and Fume Control Equipment. 1960. $2.50
Proceedings, 1966 Incinerator Conference. $12.50

Applied Mechanics

Applied Mechanics Surveys by Abramson, Leibowitz, Crowley, and Juhasz. 1966. $37.50
Behavior of Materials Under Dynamic Loading. 1965. $8.75
Design Data and Methods—Applied Mechanics. 1953. $4.00
Experimental Techniques in Shock and Vibrations. 1962. $8.00
Mechanical Impedance Methods for Mechanical Vibrations. 1958. $5.50
Random Vibration in Mechanical Systems. 1963. $6.50
Shock and Structural Response. 1960. $4.50
Symposium on Biomechanics. 1966. $9.50
Fifth U. S. National Congress of Applied Mechanics. $19.00
The Fourth U.S. National Congress of Applied Mechanics. $40.00
The Second U.S. National Congress of Applied Mechanics. $20.00
The Theory of Elastic Thin Shells. 1961. $15.00
Use of Models and Scaling in Shock and Vibration. 1963. $6.00

Automatic Control

Diaphragm Characteristics, Design and Terminology. 1958. $4.50
Dynamics of Automatic Controls. 1948. $6.00
Frequency Response. 1956. $7.50
Principles of Optimalizing Control Systems. 1951. $2.00
Proceedings, 1965 Joint Automatic Control Conference. $25.00

Bibliographies

Annotated Bibliography on High Pressure Technology. 1964. $14.50
Gas Turbines (1896—1948). 1962. $7.50
Spray Literature Abstracts. 1959. $15.00

Biographies - Autobiographies

Adventures in the Navy, in Education, Science, Engineering, and in War, by W. F. Durand. 1953. $4.00
Frank and Lillian Gilbreth: Partners for Life. 1949. $5.50
I Remember—Autobiography of Dexter S. Kimball. 1953. $4.00
Modern Jupiter—The Biography of Charles Proteus Steinmetz. 1958. $3.50
Scientific Blacksmith—The Autobiography of Mortimer E. Cooley. 1947. $3.75

Combustion - Fuels

Fuels Research in the Western World—1964. $1.50
Proceedings, 1955 Joint Conference on Combustion. 1956. $12.50
Technical Data on Fuel. 1961. $10.00

Design

Design Engineering Conference, Proceedings, 1961. $10.00- 1960-1956. $5.00 (each)
Mechanical Reliability Concepts. 1965. $4.00
New Design Standards for Flexible Couplings. 1966. $3.00
Review of Engineering Approaches to Design Against Fracture. 1965. $4.25

Flowmeters - Flow Measurement

Biomedical Fluid Mechanics Symposium. 1966. $11.00
High-Pressure Measurement. 1963. $10.95
Flow Measurement Symposium. 1966. $15.75
Flowmeter Computation Handbook. 1961. $10.00
Fluid Meters, Their Theory and Application. 1959. $10.00
Symposium on Measurement in Unsteady Flow. 1962 $7.50

Heat Transfer

Advances in Thermophysical Properties at Extreme Temperatures and Pressures. 1965. $16.50
General Discussion on Heat Transfer. 1951. $10.00
International Developments in Heat Transfer, Proceedings of the 1961-62 Heat Transfer Conference. 1963. $35.00
Progress in International Research on Thermodynamic and Transport Properties. 1962. $24.00
Reflections on the Motive Power of Heat. $3.00
Symposium on Air-Cooled Heat Exchangers. 1964. $5.75
Thermodynamic and Transport Properties of Gases, Liquids and Solids. 1959. $12.50

Lubrication and Wear

Friction and Lubrication in Metal Processing. 1966. $15.00
Friction and Wear in Machinery (translations from the Russian).
Volume 11, 1962. (114, 335 pgs., $7.50)
Volume 12, 1960. (136, 333 pgs., $7.50)
Volume 13, 1961. (139, 263 pgs., $7.50)
Volume 14, 1962. (142, 308 pgs., $7.50)
Volume 15, 1964. (147, 479 pgs., $7.50)
Volume 16, 1964. (148, 312 pgs., $7.50)
Volume 17, 1964. (161, 260 pgs., $7.50)
Pressure-Viscosity Report. 1953. $10.00
Proceedings, 1957 Conference on Lubrication and Wear. $23.00
The Role of Viscosity in Lubrication. 1960. $4.50
Viscosity of Lubricants Under Pressure. 1954. $3.00

Management

Definitions of Occupational Specialties in Engineering. 1952. $3.50
Fifty Years Progress in Management, 1910-1960. 1960. $12.50
Gantt on Management. 1962. $9.00
Handbook of Consulting Practice for Mechanical Engineers. 1960. $3.00
Ideas, Inertia, and Achievements. 1960. $5.00
International Impact on Engineering Management. $6.00
Marks' Mechanical Engineers' Handbook. 1958. $25.00
Professional Guide for Junior Engineers. 1949. $1.00
Small Plant Management. 1960. $10.50
The Unwritten Laws of Engineering. 1944. 50¢

Materials Handling

Advances in Material Handling. 1958 $5.00
Materials Handling Handbook. 1958. $22.50

Mechanics of Fluids

Cavitation in Fluid Machinery. 1965. $11.75
Cavitation in Fluid Machinery, Discussions. 1966. $2.00
Cavitation Forum. 1966. $1.50
Compressor Stall, Surge and System Response. 1960. $3.50
Fluid Jet Control Devices. 1962. $7.50
Multi-Phase Flow Symposium. 1963. $6.50
Symposium on Cavitation Research Facilities and Techniques. 1964. $9.50
Discussions on the Symposium on Cavitation Research Facilities and Techniques. 1965. $1.00
Symposium on Fully Separated Flows. 1964. $7.50
Symposium on Rheology. 1965. $8.75
Resistance of Various Materials to Cavitation Damage. 1957. $4.00
Water Hammer in Hydraulics and Wave Surges in Electricity. 1961. $15.00
Water Hammer. Proceedings of the 1933 Symposium. $4.00
Waterhammer in Pumped Storage Projects. $11.75

Metals

ASME Handbook—Engineering Tables. 1956. $17.50
ASME Handbook: Metals Engineering Design. 1965. $24.00
ASME Handbook. Metals Engineering—Processes. 1958. $13.50
ASME Handbook: Metals Engineering—Properties. 1954. $15.00
Castings, Theory of Special Kinds of. Translation from the Russian by A. I. Veynik. 1962. $8.00
Joint International Conference on Creep. 1963. $25.00
Discussions of the Joint International Conference on Creep. $15.00
Manual on Cutting of Metals. 1952. $10.00
Rolling of Metals. 1958. $5.80
Symposium on Heat Treated Steels for Elevated Temperature Service. 1966. $8.50

Metals: Temperature Properties - Fatigue

A Review of Engineering Approaches to Design Against Fracture. 1965. $4.25
Comparative High Temperature Properties of British and American Steels. 1954. $1.00
Elevated-Temperature Properties of Metals—Cast Iron. No. 248. 1959. $4.25

Nuclear

Advances in Nuclear Engineering. 1957. $25.00
Criteria of the ASME Code for Nuclear Vessels. 1965. $1.25
Glossary of Terms in Nuclear Science and Technology. 1957. $5.00
Hot Laboratory Operation and Equipment. 1957. $12.00
Power Reactors. 1959. $5.00
Research and Test Reactors. 1959. $7.50

Oil and Gas Power

Diesel Fuel Oils. 1948. $3.50
Proceedings of The National Oil and Gas Power Conferences.
1966 Diesel and Gas Engine Power Conference. $10.00
1965 Diesel and Gas Engine Power Conference. $5.00
1964 Oil and Gas Power Conference. $5.00
1962 Oil and Gas Power Conference. $5.00
1961 Oil and Gas Power Conference. $5.00
1958 Oil and Gas Power Conference. $4.00
1957 Oil and Gas Power Conference. $4.00
1965 Report on Oil and Gas Engine Power Costs. 1965. $3.50

Turbine Lubricating Systems

Recommended Practices for Cleaning of Turbine Lubricating Systems. 1952. $2.00
Symposium on Turbine Oils. 1962. $4.75

General

ASME Screw Thread Manual. 1952. $2.50
Deep Space and Missile Tracking Antennas. 1966. $4.00
History of the Boiler Code. 1955. $4.00
Homes of Some Engineering Societies. 1956. $2.00
International Research in Production Engineering. 1963. $25.00
1966 National Transportation Symposium. $20.00
Pressure Vessel and Piping Design. 1960. $15.00
Proceedings, 1959 International Rubber Conference. $12.50
Properties of Steam at High Pressures. 1956. $1.50
Reheat Turbines and Boilers. 1952. $2.50
Reliability and Maintainability Pamphlet. 1966. $1.50
The Philosophy of Power Test Codes and Their Development. $1.25
Theoretical Steam Rate Tables. 1938. $3.00
Structures for Thermal Flight. 1956. $4.00
77-Year Index to ASME Technical Papers (1880-1956). $25.00

Periodicals

Mechanical Engineering (Subscription price included in membership dues) $7.00 annually to nonmembers, and $5.50 to ASME members for each additional subscription. Additional postage outside the United States, $1.50

Transactions of the ASME
Series A—*Journal of Engineering for Power*
Series B—*Journal of Engineering for Industry*
Series C—*Journal of Heat Transfer*
Series D—*Journal of Basic Engineering*
Series E—*Journal of Applied Mechanics*

Annual subscription rates to nonmembers: $15.00 for each Journal, $27.00 for any two, $38.00 for any three, $45.00 for any four, and $50.00 for all five. 50% less to ASME members. Seventy-five cents should be added to the price of each Quarterly if mailed outside the United States.

Applied Mechanics Reviews (published monthly) $39.00 to nonmembers and $19.50 to ASME members.

Mechanical Engineers' Catalog and Product Directory (published annually; $10.00 to nonmembers, no charge to ASME members)

ASME Miscellaneous Papers

THE papers in this list were presented at ASME meetings during 1965 but were not published in the TRANSACTIONS OF THE ASME or in full in *Mechanical Engineering*. They can be consulted in the Engineering Societies Library where photostatic copies may be obtained and quotations will be given upon request.

A

ADAMS, J. M.
An investigation of heat transfer to pool-boiling magnesium. 65—HT-49.

ADAMS, ROBERT B.
Application of fluidic valves. 65—WA/PID-12.

ADAMS, ROBERT G.
The effect of Reynolds number on the performance of partial admission and re-entry axial turbines. 65—GTP-3.

ADAMS, ROBERT G.
The effect of Reynolds number on the performance of a tangential-flow turbine. 65—GTP-16.

ADELBERG, MARVIN, AND BAKER, EDWARD C.
Thermal design of electronic packages. 65—WA/HT-44.

ADVANI, G. H.
see NEVINS, RALPH G.

AFGAN, N., ANASTASIJEVIC, P., AND NOVAKOVIC, M.
A new method of burnout detection. 65—WA/HT-46.

ALDAG, HOWARD W.
The pulse-jet engine as a prime mover. 65—WA/GTP-6.

ALDRICH, ELIZABETH W.
see BRIDGEMAN, OSCAR C.

ALLEN, WILLIAM E.
Plastics for vigorous service. 65—unnumbered.

ALLGEYER, E. R., AND HOLMBERG, J. D.
Design and development of large cooling tower fan and drive. 65—PET-11.

AMUNDSEN, EINAR K.
see WOOD, WILLIAM J.

ANASTASIJEVIC, P.
see AFGAN, N.

ANDERSON, C. E.
Modern controls for subsea valves. 65—PET-34.

ANDERSON, J. HILBERT
The expansion turbine. 65—WA/GTP-13.

ANDERSON, J. HILBERT, AND ANDERSON, JAMES H., JR.
Large-scale sea thermal power. 65—WA/SOL-6.

ANDERSON, JAMES H., JR.
see ANDERSON, J. HILBERT

ANDERSON, J. T.
A review of digital-computer heat-transfer programs. 65—WA/HT-48.

ANDERSON, KENNETH E.
Construction and operation of pipelines in Libya. 65—PET-33.

ANDERSON, T. L., CAMPBELL, R. D., AND ROCHFORT, J. D.
High rate reactivity insertion device for Snap 10a reactor testing. 65—unnumbered.

ANDERSON, THOMAS L., BUTTREY, KENNETH E., ROCHFORT, JEAN D., AND CAMPBELL, ROBERT D.
Snap reactor transient test machine. 65—WA/SAF-1.

ANDRUS, J. R.
see HUSE, R. A.

ANTONY, A. P., AND HALL, J. B.
Fuel cell power plants for research submarines. 65—unnumbered.

APPL, F. C.
see HUNG, H. M.

APTHORP, HENRY
The use of natural gas in the cupola. 65—WA/FU-4.

ARCHER, JAMES E.
Guarding confidential information. 65—MD-46.

ARMSTRONG, A. J., AND WATSON, R.
Bursting characteristics of thin metal diaphragms in shock tubes. 65—WA/MET-16.

ARMSTRONG, R. C., DRAKE, G. L., AND BURNETT, J. R.
Development status of a prototype integrated regenerable life-support system. 65—AV-25.

ARNAS, O. A.
see KOTAN, K.

ARONSON, DAVID
Heat exchanger using short tubes for sufficient operation in laminar flow region. 65—WA/HT-5.

ATHA, LARRY C.
see WETHERAL, THOMAS G.

B

BAKER, EDWARD C.
see ADELBERG, MARVIN

BANKS, W. C.
see STICHA, E. A.

BARAKAT, HUSSEIN Z.
Transient laminar free-convection heat and mass transfer in two-dimensional closed containers containing distributed heat source. 65—WA/HT-28.

BARANSKI, LEONARD S.
The growth of polypropylene through automotive applications. 65—WA/RP-9.

BARCELO, BRIAN T.
see MARTINEZ, JOHN L.

BARNESS, E. J.
see PEAKE, C. C.

BARNET, F. ROBERT, MCLEAN, WILLIAM J., AND PROSEN, STANLEY P.
Fiber-reinforced materials. 65—MD-10.

BARR, RODERICK A.
see JOHNSON, VIRGIL E., JR.

BATTERSON, R. L.
see MILLS, E. S.

BAUGH, E. D.
Controlling weld distortion by electron beam techniques. 65—MD-14.

BAUMANN, NELSON P., AND TIPPING, WILLIAM E., JR.
Vibration reduction techniques for high-speed rotating equipment. 65—WA/PWR-3.

BAYLEY, F. J., AND RAPLEY, C.
Heat transfer and pressure loss characteristics of matrices for regenerative heat exchangers. 65—HT-35.

BEACH, J. B.
Design features of the Lockheed L-2000 supersonic transport. 65—AV-39.

BEALE, L. A.
see NOEL, J. S.

BECK, E. J.
see CRUVER, J. E.

BECK, J. V., AND DHANAK, A. M.
Simultaneous determinations of thermal conductivity and specific heat. 65—HT-14.

BECK, JAMES V., AND WOLF, HERBERT
The nonlinear inverse heat conduction problem. 65—HT-40.

BECK, LAWRENCE O.
see RICHARDS, CHARLES E.

BECK, W. H., DAVIDSON, P. M., AND SCHARP, C. B.
Thermal cycle analysis by variables — A universal approach for digital computers. Part 1 — General program orientation. 65—WA/PTC-3.

BECK, W. H., DAVIDSON, P. M., AND SCHARP, C. B.
Thermal-cycle analysis by variables — A universal approach for digital computers. Part 2 — Equation development and execution. 65—WA/PTC-4.

BELFORD, RICHARD B.
Disadvantages of the international metric system on engineering & industry. 65—unnumbered.

BELL, W. H.
Small displacement, self-balancing differential manometer. 65—unnumbered.

BENNETT, I. C.
see HOFER, K. E., JR.

BENTWICH, M., SZWARCBAUM, G., AND SIDEMAN, S.
Time dependent temperature distribution in flow past a sphere. 65—HT-38.

BERAN, WILLIAM T., AND ROSENCRANTZ, DONALD M.
Asherah design and operations. 65—UNT-3.

BERARD, D. J., AND SMITH, E. S.
Significant developments in economical underwater hot-tapping and tie-in equipment and techniques. 65—PET-35.

BERDELMAN, H. A.
Thermal stresses in the composite wall of a cryogenic tank. 65—AV-6.

BEREIS, KENNETH A., AND RICHTER, KENNETH E.
Operator training via simulation — Large utility pioneers new approach to instruct power-plant personnel. 65—WA/PWR-7.

BERENSON, P. J.
An experimental investigation of flow stability in multitube forced-convection vaporizers. 65—HT-61.

BERGER, C.
see HANSEN, C. E.

BERGLES, A. E.
see DALEAS, R. S.

BERMEL, T. W., AND BROWN, W. R.
Development of a pure fluid Nor gate and a Nor logic binary-to-decimal converter. 65—WA/AUT-13.

BIERMAN, G. F., AND MILLER, W. J.
Nuclear reactor plant availability. 65—unnumbered.

BISHOP, A. A.
see TONG, L. S.

BISHOP, A. A., KRAMBECK, F. J., AND SANDBERG, R. O.
Forced-convection heat transfer to superheated steam at high pressure and high Prandtl numbers. 65—WA/HT-35.

BISHOP, A. A., SANDBERG, R. O., AND TONG, L. S.
Forced convection heat transfer at high pressure after the critical heat flux. 65—HT-31.

BLAIR, G. P.
see WALLACE, F. J.

BLECH, J. J.
Computer analysis of flexural vibrations of a rotating disk with an arbitrary profile. 65—WA/GTP-8.

BLOEMER, J. W.
Factors affecting solar-still performance. 65—WA/SOL-1.

BLUM, HAROLD A., AND MOORE, CLIFFORD J., JR.
Transient phenomena in heat transfer across surfaces in contact. 65—HT-59.

BODEK, EDWARD J., AND PIZZI, ALBERT L.
Wrapping flat-type resistors. 65—WA/PROD-9.

BOGGIO, F. G.
see ZEITLEIN, A.

BOHO, M. J.
see STEPHENS, J. O.

BOLLINGER, JOHN G., AND CUPPAN, BRUCE C.
Determining dynamic characteristics of machine structures. 65—MD-13.

BONAMY, S. E., AND VAN DER WERF, P.
Constant-volume and limited-pressure engine cycles: A theoretical study applicable to both two-stroke and four-stroke engines. 65—OGP-1.

BONAN, E., AND DOENNEBRINK, F. A.
Systems engineering — Myth or magic. 65—WA/AV-1.

BOYANOVITCH, D.
On the application of hydrodynamics to the study of the stability of singular points of differential equations autonomous systems. 65—unnumbered.

BOYEN, JOHN L.
Heat recovery problems in total energy systems. 65—GTP-2.

BRAUN, HOWARD E., AND WESNER, JOHN W., JR.
Study of cable-wrapped pressure vessel for nuclear reactors. 65—WA/NE-4.

BRAUTIGAM, D. P.
An analysis of the application of labor standards to maintenance craft activities. 65—PEM-2.

BREDBERG, J. H.
Electronic-electrical applications. 65—MD-24.

BREWER, R. C.
see KRISHNOMOORTHY, C.

BREWER, WILLIAM
see BRYAN, JAMES B.

BRIDGE, JOHN F., AND KIHARA, DEANE H.
The decompression model for deep-sea diving. 65—WA/HUF-15.

BRIDGEMAN, OSCAR C., AND ALDRICH, ELIZABETH W.
Estimation of temperature rise on adiabatic compression of petroleum lubricating oils. 65—LUBS-16.

BRIDWELL, HAROLD C., WARD, CHARLES E., AND ROWLEY, D. S.
Erosion of various materials by liquid-entrained abrasives. 65—WA/PET-2.

BRIDWELL, HAROLD C., WARD, CHARLES E., AND ROWLEY, DAVID S.
Erosion of certain metals and powder composites by liquid-entrained abrasives. 65—PET-23.

BRIGHTON, J. A.
Artificially thickened turbulent boundary layers by means of wires. 65—WA/FE-29.

BROOKS, ROBERT C.
see WILLIAMS, LEONARD E., JR.

BROWN, CLINTON E.
Gilled systems for hydrospace. 65—WA/UNT-6.

BROWN, T. D.
see HEDLEY, A. B.

BROWN, TERRY L., JR.
see BUCKLEW, LEW

BROWN, W. R.
see BERMEL, T. W.

BRUNER, J. P.
see KAMPSCHAEFER, G. E., JR.

BRYAN, JAMES B., BREWER, WILLIAM, MCLURE, ELDON R., AND PEARSON, J. W.
Therma' ?acts in dimensional metrology. 65—PROL ?.

BRYANT, R. A. A.
see HUEY, C. T.

BUCK, K.
see JAFFEE, H.
BUCKLEW, LEW, AND BROWN, TERRY L., JR.
Design applications of high temperature insulation. 65—unnumbered.
BUCKLEY, WILLIAM S.
Budgets for capital and expense projects. 65—PEM-1.
BUGEL, T. E.
Modulus of elasticity for design with polysulfone thermoplastic. 65—WA/RP-2.
BURGART, HAROLD F.
Total-energy successes to date in Northern Illinois. 65—OGP-14.
BURGER, JOE R., AND HOOGENDAM, CORNELIS
The development of a new check valve and some special applications. 65—PET-22.
BURKE, J. C., AND RAWDON, A. H.
An experimental study of heat transfer to two-phase film-boiling nitrogen. 65—HT-37.
BURNETT, J. R.
System requirement analysis. 65—WA/AV-2.
BURNETT, J. R.
see ARMSTRONG, R. C.
BURTON, RALPH A.
The theoretical need for solid film properties. 65—unnumbered.
BUSH, ROBERT E., AND GARRETT, H. U.
Hydraulic-retrievable "Piggyback" equipment for through-flowline applications. 65—PET-41.
BUTTREY, KENNETH E.
see ANDERSON, THOMAS L.
BYARS, EDWARD F.
see MCELHANEY, JAMES H.
BYERS, R. K.
see SWEENEY, A. W.

C

CAKE, W. J.
Maintenance of aircraft gas-turbine engines. 65—AV-15.
CAMPBELL, R. D.
see ANDERSON, T. L.
CAMPBELL, ROBERT D.
see ANDERSON, THOMAS L.
CANDELL, L. M.
see WEINER, M. M.
CARDEN, A. E.
Thermal-fatigue resistance: Material, geometric, and temperature field considerations. 65—GTP-5.
CAREY, JACK M.
see CZERWONKA, LAWRENCE J.
CARHART, HOMER W.
The maintenance of a habitable atmosphere. 65—UNT-5.
CARLTON, GILBERT A.
see WEINERT, EUGENE P.
CARNEY, T. M.
see GOLDWYN, R. M.
CARTER, ALLAN J.
Extending the uses of rubber for engineering applications. 65—MD-33.
CARTER, ANTHONY F., AND NOVAK, RICHARD A.
Computed aspect ratio—Curvature effects upon the performance of a high-pressure-ratio single-stage compressor. 65—WA/GTP-12.
CARTWRIGHT, J. S., AND STEEN, R. C.
The mechanization of bobbin-wound coils. 65—WA/PROD-10.
CARTWRIGHT, R. S.
see DAVEY, T. B.
CASE, J. M.
see VAN HOOMISSEN, J. E.
CASTERLINE, J. E.
see MATZNER, B.
CASTERLINE, J. E.
see TONG, L. S.
CASTRO, L. F., AND ODEN, J. H.
Pressure-compensated flow regulation for waterflood projects. 65—PET-26.
CASWELL, HOWARD E.
Evaluating and projecting prototype costs. 65—MD-1.
CAVE, RICHARD T.
The role of simulation in Apollo spacecrew training. 65—WA/HUF-17.
CEBECI, TUNCER
see OZISIK, M. NECATI
CHANAUD, R. C.
see RODELY, A. E.
CHENG, D. H., AND WEIL, N. A.
Axial thermal gradient stresses in thin cylinders of finite length. 65—WA/MET-17.
CHEPPA, E., AND WHOOLEY, J. P.
Digital computer control for Unit No. 1 Hudson Generating Station. 65—unnumbered.
CHESNER, R. J., AND PRESTRIDGE, J. C.
Capillary fuel cell orbital experiment. 65—AV-28.
CHI, J. W. H.
Slug flow and film boiling of hydrogen. 65—WA/HT-32.
CHILDRESS, E. E.
see FRIDDELL, J. F.
CHRIST, FRED C.
A high-speed triplex pump: Design, application, and results. 65—PET-38.
CLARKE, A. W.
A large refinery tackles energy conservation. 65—PET-31.
CLAY, P. E.
Design and installation considerations for heat recovery systems. 65—OGP-12.
CLEMMER, A. B., AND LEMEZIS, S.
Selection and design of closed feedwater heaters. 65—WA/PTC-5.
CLINE, FREDERICK A., JR.
A project control procedure. 65—PEM-3.
CLOSMANN, P. J.
Effect of a heat-conducting well wall on temperature distribution in an observation well. 65—HT-36.
COBB, CLIFTON A.
Functions of an advanced design engineering section. 65—unnumbered.
COCKLIN, H. W., AND GEIGER, A. F.
Dormant energy awakens in the Southwest. 65—PWR-12.
COLLIER, SAMUEL L.
see SCHINDLER, MARVIN E.
COLLINS, JERRY
Turbosupercharger systems by mass production. 65—OGP-16.
CONNERAN, JAMES F.
Automatic control of liquid pipeline stations. 65—OGP-7.
COOK, N. H.
see HERVEY, R. P.
CORDON, F. R., AND HYCKER, D. J.
Progress in constant speed drive generating systems. 65—unnumbered.
CORLL, JAMES A.
Pressure terminology. 65—WA/PT-2.
COSTELLO, FREDERICK A.
Analytical prediction of spacecraft radiator performance. 65—WA/HT-45.
COX, K. J.
see GOLDWYN, R. M.
CROCKETT, L. K.
Design and manufacturing techniques to prevent stress corrosion. 65—MD-45.
CROKER, D. M., AND PSICHOGIOS, T. P.
Development of a high-speed reverse gear for marine gas turbine. 65—GTP-19.
CROWLEY, M. S.
Repairing refractory concrete. 65—PET-44.
CRUVER, J. E., AND BECK, E. J.
Heat transfer research in the deep ocean. 65—WA/UNT-5.
CUNNINGHAM, R. G.
On communication and action in engineering education. 65—unnumbered.
CUPPAN, BRUCE C.
see BOLLINGER, JOHN G.
CURRAN, R. M., DAVIS, C. M., WILLIAMS, D. H., AND ROBERTS, L. R.
A progress report on study of steam turbine erosion by solid particles. 65—WA/PWR-6.
CZERWONKA, LAWRENCE J., AND CAREY, JACK M.
Application of particle-size analysis data for the determination of air/cleaner performance. 65—GTP-6.

D

DALEAS, R. S., AND BERGLES, A. E.
Effects of upstream compressibility on subcooled critical heat flux. 65—HT-67.
DALTON, C. A.
Sulfur and sea salt attack of turbine blades. 65—GTP-7.
DAPPRICH, A. E., AND MARIN, JOSEPH
Elastic solution of compound pressure vessels for materials with directional properties. 65—PET-10.
DAREING, D. W.
Kinematics of an improved gear tooth profile: Convex-flat mating surfaces. 65—PET-14.
DARMS, FRED J., AND MORRIS, EDGAR E.
Design concepts and procedures for filament-wound composite pressure vessels. 65—unnumbered.
DAVEY, T. B., KAUFMAN, B., SMELOFF, E. A., AND CARTWRIGHT, R. S.
Design of prosthetic heart valves. 65—WA/HUF-5.
DAVIDSON, P. M.
see BECK, W. H.
DAVIS, C. M.
see CURRAN, R. M.
DECKER, O.
Design applications of fluid film and sliding surface bearings. 65—unnumbered.
DEGREGORIO, GIUSEPPE
see MAZZOLI, GIORGIO
DELMEGE, ARTHUR H.
Servo synthesis. 65—MD-39.
DEMPSTER, R. T.
see MOECK, E. O.
DERIENZO, P. P., AND WEISSMANN, T.
A megacurie isotope production facility. 65—unnumbered.
DHANAK, A. M.
see BECK, J. V.
DIBITONTO, SAVINO
see MAZZOLI, GIORGIO
DICK, PAUL
Nondestructive test equipment for predicting and preventing failure. 65—MD-26.
DILLINGHAM, EDWARD, AND KEARL, JAMES R.
Automatic passenger-control gate. 65—WA/HUF-11.
DIXON, JOHN R.
see ZINSMEISTER, GEORGE E.
DODD, THOMAS J.
"The challenge of the undersea." 65—unnumbered.
DOENNEBRINK, F. A.
see BONAN, E.
DONACHIE, MATTHEW J., JR.
see VOGEL, WILLIAM H.
DONOHO, C. K.
see DOTSON, C. L.
DOTSON, C. L., AND DONOHO, C. K.
Creep-rupture properties of centrifugally cast 1¼ Cr-½ Mo alloy-steel pipe. 65—MET-10.
DOWTY, E. L., AND HAWORTH, D. R.
Solution charts for transient heat conduction in materials with variable thermal conductivity. 65—WA/HT-29.
DRAKE, G. L.
see ARMSTRONG, R. C.
DRAKE, RONALD
see PURI, N. N.
DRESSER, DAVE
see PASSINI, JON
DREWS, D. W., AND MENTZ, R. M.
An automation application to shipboard power plant systems. 65—OGP-5.
DUBOVICK, WALTER A.
Precision castings. 65—MD-42.
DUCHON, PAUL, AND FINCH, W. C.
Mission integration of nuclear dynamic power systems. 65—AV-32.
DUDLEY, DARLE W.
How to select gears for proper performance. 65—MD-21.
DUFFY, EDWARD J., AND TROUT, DELMAR E.
Relative susceptibility of copper-nickel alloys to intergranular cracking in various media and at varying stress levels. 65—WA/CT-1.
DUGAN, FRANCIS A.
Brookhaven experience with handling and shipping of, and cask design for, reactor spent-fuel elements. 65—WA/NE-7.
DUMBAUGH, GEORGE D.
Concepts of vibratory hoppers. 65—MH-11.
DURAND, H. P.
Dynasar applications. 65—unnumbered.
DURAND, HARLAN P.
Simulation of jet engine transient performance. 65—WA/MD-16.
DUZY, A. F.
Fusibility-viscosity of lignite-type ash. 65—WA/FU-7.
DWYER, H. A.
see PESKIN, R. L.
DWYER, ORRINGTON E.
see KALISH, SHELDON

E

EBEL, GEORGE H.
Practical statistical techniques for gathering information on failure. 65—MD-1.
ECKERT, LAWRENCE A.
Mechanical problems related to thermal recovery. 65—PET-36.
ECKERT, R. M.
see SMITH, R. I.
EGGENBERGER, M. A.
Power response of modern reheat turbine-generators to load dispatching signals. 65—WA/PWR-5.
EHRENPREIS, DAVID
Mechanical developments. 65—MD-22.
EHRICH, F. F.
Bistable vibration of rotors in bearing clearance. 65—WA/MD-1.
ELAM, B. F.
Heat transfer in honeycomb-core sandwich panels. 65—HT-13.
ELDRIDGE, W. W., III
Dynamic characterization of automotive rubber. 65—WA/RP-11.
ELLIOTT, D. H.
Thermal conduction across aluminum bolted joints. 65—HT-53.

EMMERSON, C. W.
see HELMS, H. E.
EMSLIE, ALFRED G.
see STRONG, PETER F.
ENFIELD, F. D., AND TUGGLE, J. R.
A new technology for SST maintenance. 65—AV-12.
ENGDAHL, RICHARD B.
Trends in technology and economics of energy from fuels. 65—WA/FU-6.
ERNST, HERMANN
Operating experience with an oil-lubricated high-speed potassium turbine bearing. 65—LUBS-10.

F

FAIRBANKS, D. R., AND MARK, M.
An optimization procedure for finning in free convection. 65—HT-12.
FAZEKAS, G. A.
On the teaching of design in mechanical engineering. 65—WA/MD-15.
FETTER, LAWRENCE J.
Connecting-rod fatigue testing. 65—OGP-3.
FINCH, W. C.
see DUCHON, PAUL
FINKLE, E.
see JAFFEE, H.
FISHER, E. E.
The identification of linear systems. 65—unnumbered.
FOGLEMAN, E. L., AND STERNE, R. H., JR.
Effect of heat treatment on mechanical properties of 2¼ percent Cr-1 percent Mo steel plate. 65—PET-6.
FOLEY, D. D.
see HORTON, K. E.
FOSTER-PEGG, R. W.
Supercharging of gas turbines by forced draft fans with evaporative intercooling. 65—GTP-8.
FOWLER, HOWARD S.
Some measurements of the flow pattern in a centrifugal compressor impeller. 65—WA/GTP-7.
FOWLER, JACKSON E., AND PARRY, JOHN J.
A facility for flow visualization in a large-scale turbine stage. 65—WA/PWR-2.
FOX, R. W.
see MCDONALD, A. T.
FRANTZ, W., AND GRUETTER, R. D.
Simulated high gas-flow testing. 65—WA/AUT-7.
FREDD, JOHN V.
see SIZER, PHILLIP S.
FRENCH, R. F.
Aircraft gas turbine rotating compressor disk vibration. 65—WA/GTP-11.
FRIDDELL, J. F., AND CHILDRESS, E. E.
Conversion of the General Motors Series 71 diesel engine for operation on natural gas. 65—unnumbered.
FROEHLICH, H. E.
Integrated controls for underseas vehicle manipulator systems. 65—unnumbered.
FUCHS, F. J., JR.
Production metal forming with hydrostatic pressures. 65—PROD-17.
FURTAW, R. N.
In-flight testing — A parameter-dependent approach. 65—unnumbered.

G

GADD, C. W., LANGE, W. A., AND PETERSON, F. J.
Strength of skin and its measurement. 65—WA/HUF-8.
GARNER, NELSON V.
Utilizing air-lift procedures for supporting oil-well operations in remote locations. 65—PET-17.
GARRETT, H. U.
see BUSH, ROBERT E.
GARRETT, J. H.
see WEIL, N. A.
GARROCQ, CARLOS A.
Optimum solidity. 65—AV-21.
GATZEK, LEO E.
Aerospace structures technology. 65—AV-26.
GEIGER, A. F.
see COCKLIN, H. W.
GENTILE, A. J., AND MARTIN, A. D.
The effects of prior metallurgically induced compressive residual stress on the metallurgical and endurance properties of overload tested ball bearings. 65—WA/CF-7.
GERVAIS, ROBERT L., AND MCKAY, MERRIT L.
A single system for manned Martian expeditions, circa 1975-1985. 65—AV-29.
GIESKING, PAUL F.
Covered ore cars and automatic loading, unloading, and weighing features. 65—WA/RR-6.
GILLS, B. G., AND LEES, B.
Insulated steel chimneys avoid corrosion and smut emission. 65—WA/FU-5.
GITLOW, B.
see SCHMITT, J. W.
GLASER, P. E.
Solar-power—Reality or vision. 65—PWR-5.
GLASER, P. E., WECHSLER, A. E., AND GREEN, J.
The role of solar furnaces in the processing of extraterrestrial resources. 65—WA/SOL-2.
GLEIXNER, HENRY
see MAZZOLI, GIORGIO
GOLDFEIN, SOLOMEN
Long-term rupture strength of alloys and plastics from tensile strength at elevated temperatures. 65—MET-12.
GOLDSCHMIED, FABIO R., AND LECHNER, THOMAS J.
Feasibility study of a fluidic control subsystem. 65—WA/AUT-10.
GOLDSCHMIED, F. R.
Proposed test standards for NOR and NAND fluid digital amplifiers with some preliminary experimental results. 65—unnumbered.
GOLDSPIEL, S.
New approach to nondestructive testing demanded by the deep-diving submersible program. 65—UNT-9.
GOLDWYN, R. M., CARNEY, T. M., AND COX, K. J.
A decision control problem. 65—unnumbered.
GOODMAN, ALEX, AND JOHNSON, VIRGIL E., JR.
A full-scale, lighter than air submarine simulator system. 65—WA/UNT-7.
GORZEGNO, W. P.
see MCCORMICK, D. J.
GOTTLIEB, GERALD L.
An energy-optimal control law for a system with bounded time and control. 65—WA/AUT-14.
GRAM, A. J., AND KESSLER, G. W.
A new regenerative air heater for power boilers. 65—WA/PWR-8.
GREEN, ANDREW
see HALL, JAMES E.
GREEN, E. A., OCHIEANO, M. L., AND PIPHER, F. C.
Titanium fabricating techniques. 65—AV-20.
GREEN, J.
see GLASER, P. E.
GREENE, JAMES D.
see PRADKO, FRED
GREER, H., AND GRIEP, D. J.
Low thrust reaction jet performance. 65—WA/AUT-11.
GRIEP, D. J.
see GREER, H.
GRIFFITH, PETER
see HABERSTROH, ROBERT E.
GRIFFITH, PETER
see ROSE, SEWELL C., JR.
GROSH, R. J.
see KUDIRKA, A. A.
GROTZ, B. J., AND LORENZEN, A. M.
Evolution of gas reactor steam generators. 65—WA/NE-8.
GRUETTER, R. D.
see FRANTZ, W.
GUNTER, ADDISON Y.
see SMITH, ENNIS C.
GURA, IRA, AND PERLMUTTER, D. D.
Systematic determination of practical stability regions for nonlinear systems. 65—WA/AUT-9.
GUSTAFSON, ROBERT E.
Behavior of a pivoted-pad thrust bearing during start-up. 65—LUBS-13.
GUTHRIE, JAMES J., JR., AND MORRIS, JOHN M.
Electrochemical feeding and proportioning of bulk solids. 65—MH-6.

H

HABERSTROH, ROBERT E., AND GRIFFITH, PETER
The slug-annular two-phase flow regime transition. 65—HT-52.
HADDAD, J. A.
The changing role of engineering in companies. 65—unnumbered.
HAGAN, J. LEO
Repair approach to planned maintenance. 65—PEM-4.
HAHN, E. J.
see HIND, E. C.
HALFPENNY, P. F.
see STARRETT, P. S.
HALL, J. B.
see ANTONY, A. P.
HALL, JAMES E., AND GREEN, ANDREW
Chaparral chassis design: the successful use of a plastic frame in a racing sports car. 65—unnumbered.
HALLANDER, J. M.
see HORTON, K. E.
HANKE, CARL C., JR.
see PETSINGER, ROBERT E.
HANSEN, ARTHUR G.
see NA, TSUNG YEN
HANSEN, ARTHUR G., AND KINNAVY, ROGER
The design of water-jet pumps. Part 1—Experimental determination of optimum design parameters. 65—WA/FE-31.
HANSEN, ARTHUR G., KINNAVY, ROGER, AND JETT, A. VICTOR
The design of water-jet pumps. Part 2—Jet-pump system characteristics. 65—WA/FE-32.
HANSEN, C. E., AND BERGER, C.
Urine and waste-water recovery by electrodialysis. 65—AV-16.
HANSEN, JOHN A.
The material-handling complex for construction of Oroville Dam. 65—MH-8.
HANZALEK, F. J., AND IPSEN, P. G.
Boiler-turbine coordination during startup and loading of large units. 65—WA/PWR-9.
HARKEY, JACK W.
Analyses of stress concentrations in sucker-rod joints using photoelastic models. 65—PET-40.
HARRINGTON, P. D.
Innovations in coal handling designed for Union Electric's Sioux Plant. 65—PWR-7.
HARRINGTON, R., AND LIVINGSTONE, R.
Dynamics of a two-axis pedestal. 65—WA/MD-17.
HARRIS, L. S.
Improvements in steam desuperheater performance. 65—WA/PID-8.
HARRIS, T. A.
The effect of misalignment on the life of cylindrical roller bearings. 65—LUBS-15.
HART, FRANKLIN D., AND ZOROWSKI, CARL F.
Onset of mechanical separation in bellows-supported rotary face seals. 65—GTP-4.
HART, R. J., AND MICKLE, SCOTT C.
Experiences in performance of non-lubricated compressors. 65—OGP-2.
HARTUNG, H. A.
The entrance space in rolling contacts. 65—WA/LUB-5.
HASLETT, R. A., AND KREWSKI, T. M.
Plume heating due to a rocket-engine exhaust in a high vacuum. 65—AV-38.
HAVENS, D. E., AND SECORD, T. C.
Space laboratory integrated life-support systems: Engineering and development tests. 65—AV-19.
HAVENS, F. E.
see KAMPSCHAEFER, G. E., JR.
HAWKINS, JAMES V.
Stackers-reclaimers, outdoor and indoor storage systems. 65—PWR-6.
HAWLEY, JOHN P.
SNAP 10A reactor operation. 65—WA/NE-6.
HAWORTH, D. R.
see DOWTY, E. L.
HAWORTH, RAYMOND F., AND REGAN, JOHN E.
Watertight electrical cable penetrations for submersibles—Past and present. 65—WA/UNT-12.
HAWTHORNE, J. R.
see SERPAN, CHARLES Z., JR.
HEDLEY, A. B., BROWN, T. D., AND SHUTTLEWORTH, A.
Deposition of oil ash constituents from high temperature gas streams. 65—WA/CD-3.
HEDLEY, A. B., BROWN, T. D., AND SHUTTLEWORTH, A.
Available mechanisms for deposition from a combustion gas stream. 65—WA/CD-4.
HEIDRICH, ARTHUR, JR., ROOSEN, JOHN J., AND KUNKLE, ROBERT G.
Calorimetric evaluation of heat transference by Admiralty condenser tubes. 65—WA/CT-2.
HELMS, H. E., AND EMMERSON, C. W.
Analysis and testing of air-cooled turbine rotor and stator blades. 65—WA/GTP-10.
HENDERSON, R. E.
Design applications of direct energy converters. 65—MD-50.
HENRY, CHARLES R.
Plutonium and uranium as engineering materials. 65—MET-20.
HERVEY, R. P., AND COOK, N. H.
Thermal parameters in drill tool life. 65—PROD-15.
HILL, PERCY H.
Techniques of instruction in inventive design. 65—WA/MD-14.
HILLIER, M. J.
Surface friction and the extremum principles for the load on a plastic-rigid body at the yield point. 65—WA/PROD-4.
HIND, E. C., AND HAHN, E. J.
The transfer function of the pneumatic capacitance. 65—WA/AUT-18.
HIRSCH, ARTHUR E., AND WHITE, LEONARD A.
Mechanical stiffness of man's lower limbs. 65—WA/HUF-4.
HOBERECHT, VERLIN L.
Application of data processing to revision of engineering drawings. 65—MD-31.

HODGSON, J. N.
Designing a molecular pump as a seal-to-space. 65—GTP-15.
HODGSON, J. N.
see LESSLEY, R. L.
HOFER, K. E., JR.
Studies of mechanical attachments for brittle materials. Part 1. Design aspects. 65—MET-17.
HOFER, K. E., JR., AND BENNETT, L. C.
Studies of mechanical attachments for brittle materials. Part 2. Experimental studies. 65—MET-18.
HOHMANN, J. W.
see MEINDL, J. D.
HOLBEN, ARTHUR D.
Short cuts and design aids to prototype fabrication. 65—MD-49.
HOLDEN, P. C.
see PEAKE, C. C.
HOLM, F. W.
see NEVINS, RALPH G.
HOLMBERG, J. D.
see ALLGEYER, E. R.
HOOGENBOOM, L.
Electrical analog model of two-dimensional transient heat conduction. 65—HT-66.
HOOGENDAM, CORNELIS
see BURGER, JOE R.
HOOMISSEN, J. E. VAN
see VAN HOOMISSEN, J. E.
HORDMANN, GARY J., AND YANG, KWANG-TZU
Laminar-film condensation in two-phase channel flow. 65—HT-48.
HORDON, M. J.
Rolling contact deformation of lithium fluoride. 65—WA/CF-6.
HORLOCH, J. H.
see LAKSHMINARAYANA, B.
HORNBECK, ROBERT W.
Non-Newtonian laminar flow in the inlet of a pipe. 65—WA/FE-4.
HORNBECK, ROBERT W.
An all-numerical method for heat transfer in the inlet of a tube. 65—WA/HT-36.
HORTON, JAMES H.
Environmental factors in engine design for military applications. 65—GTP-1.
HORTON, K. E., FOLEY, D. D., AND HALLANDER, J. M.
Thermal-stress and low-cycle fatigue data on typical materials. 65—GTP-13.
HORWITZ, D.
see WINSLOW, P. M.
HOUCK, WILLIAM G.
see HUNLEY, WILLIAM H.
HOUGHTON, ARTHUR V.
see KITZINGER, DAVID G.
HOWARD, PAUL L.
Latest battery improvements and mathematical techniques for their selection. 65—MD-44.
HOWARD, W. B.
Safety in research and development. 65—unnumbered.
HOWELL, JOHN K.
see WALKER, WILLIAM J.
HOWELL, JOHN R.
Calculation of radiant heat exchange by the Monte Carlo method. 65—WA/HT-54.
HSIEH, C.
see HSU, S. T.
HSU, S. T., HSIEH, C., AND VATSARAJ, B. C.
An extended surface with finned pins under free-convection cooling. 65—HT-55.
HUBBARD, ARTHUR C.
see THANOS, S. N.
HUCKER, D. J.
see CORDON, F. R.
HUEBOTTER, P. R., AND JENS, W. H.
Enrico Fermi Atomic Power Plant—Irradiation test facility. 65—WA/NE-5.
HUEY, C. T., AND BRYANT, R. A. A.
A theory for froth flow in horizontal pipes. 65—WA/FE-5.
HUGHES, JAMES S.
Selection, training, and motivating engineers in smaller departments. 65—MD-38.
HULBERT, SLADE F.
see WOJCIK, CHARLES K.
HULLENDER, W. C.
see SPOHN, H. C.
HUNG, FRANK T., AND NEVINS, RALPH G.
Unsteady-state heat transfer with a flowing fluid through porous solids. 65—HT-10.
HUNG, H. M., AND APPL, F. C.
Heat transfer of thin fins with temperature-dependent thermal properties and internal heat generation. 65—WA/HT-50.
HUNLEY, WILLIAM H., AND HOUCK, WILLIAM G.
Existing underwater manipulators. 65—UNT-8.
HUSE, R. A. TANGEL, J. E., AND ANDRUS, J. R.
Operating experience with control systems no. 1 unit—Hudson Generating Station. 65—WA/PWR-12.
HYER, FRANK S.
A high-accuracy, high-reliability electronic belt scale integrating system. 65—MH-10.

I

IORILLO, A. J.
Nutation damping dynamics of axisymmetric rotor stabilized satellites. 65—unnumbered.
IPSEN, P. G.
see HANZALEK, F. J.

J

JACKSON, THOMAS W.
see SISSOM, LEIGHTON E.
JAFFEE, H., BUCK, K., MCCLUER, H., MONTGOMERY, H., AND FINKLE, E.
The application of nuclear reactors and radioisotopes to underwater-vehicle propulsion. 65—UNT-6.
JANSEN, W.
see WILSON, D. G.
JANSEN, W., AND SMITH, J. E.
Supersonic expansion in radial-inflow turbine nozzle vanes. 65—WA/GTP-5.
JASANY, F. A.
see SWANSON, E. E.
JEGLUM, N. L.
Fluid state devices used for proportional amplification and flip-flop switching. 65—MD-27.
JEKAT, W. K.
Bearings, seals, and rotor dynamics of turbo-expanders and similar high-speed machinery. 65—WA/PID-7.
JENEY, A. F.
see WEIL, N. A.
JENNINGS, G. P.
Operating an LPG pipeline. 65—PET-32.
JENS, W. H.
see HUEBOTTER, P. R.
JENSEN, PREHAN W.
Systematic mechanism design. 65—MD-37.
JETT, A. VICTOR
see HANSEN, ARTHUR G.
JOHN, JAMES E. A.
see KOH, BARRY
JOHNSON, HAROLD L.
Path generation in space. 65—WA/MD-13.
JOHNSON, RAY C., AND TOWFIGH, KEIVAN
Application of number synthesis to practical problems in creative design. 65—WA/MD-9.
JOHNSON, VIRGIL E., JR.
see GOODMAN, ALEX
JOHNSON, VIRGIL E., JR., AND BARR, RODERICK A.
Propulsion of deep diving submarines. 65—unnumbered.
JOHNSTON, JAMES H.
see ROSSI, GENE A.
JONES, C. E.
Engineering education and the ASME. 65—unnumbered.
JONES, JACK J.
Application of aerospace procedures to civilian system selection. 65—WA/AV-3.
JONES, MARVIN R.
see WILLIAMS, LEONARD E., JR.
JOYCE, C. P., AND MILLER, L. A.
The engineering challenge of total energy. 65—OGP-15.

K

KAECHELE, LLOYD
Designing to prevent fatigue failures. 65—MD-15.
KAISER, ELMER R.
Chemical analyses of refuse components. 65—WA/PID-9.
KALISH, SHELDON, AND DWYER, ORRINGTON E.
Heat transfer to NaK flowing in-line through a bundle of circular rods. 65—HT-11.
KAMEI, H.
Effectiveness and temperature distribution of split cross-flow heat exchangers. 65—HT-24.
KAMPSCHAEFER, G. E., JR., BRUNER, J. P., AND HAVENS, F. E.
Engineering data for the design and fabrication of offshore drilling platforms with heat-treated steels. 65—PET-25.
KARINEN, R. S.
Land-based remote handling background of underwater handling equipment. 65—UNT-7.
KASTOR, R. L.
Designing for heavy wellhead landing loads without wave action. 65—PET-24.
KATTUS, J. R., AND WILLHELM, A. C.
Effects of surface imperfections on the thermal-fatigue life of metals. 65—GTP-23.
KAUFMAN, B.
see DAVEY, T. B.
KAUFMAN, R. E.
Salt water aerosol separator development. 65—GTP-9.
KEARL, JAMES R.
see DILLINGHAM, EDWARD
KECK, G. E.
Engineering relation to business objectives. 65—unnumbered.
KEELER, JAMES H.
Commercial applications for refractory metals. 65—MD-9.
KELLER, CARL H., JR.
Relating bearing selection to total product performance. 65—MD-51.
KELLER, WALTER F.
The design and analysis of bi-propellant, pulsed ablative reaction control systems. 65—AV-41.
KELLY, V. P.
Mechanical equipment for a nuclear waste processing facility: The waste solidification engineering prototype. 65—unnumbered.
KEMNITZ, WARREN N.
Modular concept in design and maintenance. 65—MD-41.
KEMP, WILLARD E.
Specialized covered hopper cars for the processing industries. 65—WA/MH-1.
KEMP, WILLARD E.
A standardized covered hopper car for special situations. 65—WA/RR-7.
KERN, DONALD Q.
see KRAUS, ALLAN D.
KESKA, K. R., AND STAAB, L. J.
Evolution of a resistance welder design. 65—unnumbered.
KESSLER, G. W.
see GRAM, A. J.
KIHARA, DEANE H.
see BRIDGE, JOHN F.
KINCAID, WILLIAM C.
Apollo portable life-support system—Development status. 65—AV-45.
KING, ALWYN H.
see O'BRIEN, JOHN L.
KING, R. E., AND WILLIAMSON, D.
Time domain matrix analysis of nonlinear quantized hybrid systems. 65—unnumbered.
KING, RALPH J.
Operating dynamics and computer simulation. 65—MD-47.
KINNAVY, ROGER
see HANSEN, ARTHUR G.
KIRK, W. B.
High-speed train operation. 65—WA/RR-5.
KITZINGER, DAVID G., AND HOUGHTON, ARTHUR V.
Matrix methods in dimensional analysis. 65—WA/MD-20.
KJELLGREN, P. S.
The development of electric-hydraulic turbine governors in North America. 65—WA/FE-33.
KNIGHT, SID
The new beta engine/compressor analyzer. 65—WA/DGEP-3.
KOCI, LUDVIK F., AND MARTA, HENRY A.
Lateral loading between locomotive truck wheels and rail due to curve negotiation. 65—WA/RR-4.
KOH, BARRY, AND JOHN, JAMES E. A.
The effect of interfacial metallic foils on thermal contact resistance. 65—HT-44.
KOH, J. C. Y., AND PRICE, J. F.
Nonsimilar boundary-layer heat transfer of a rotating cone in forced flow. 65—WA/HT-31.
KOHLER, S. H.
Development of a successful new product by a smaller company: The Dewalt model 1100 radial arm saw. 65—unnumbered.
KOTAN, K., AND ARNAS, O. A.
On the optimization of the design parameters of parabolic radiating fins. 65—HT-42.
KRAMAROW, NATHAM M.
see SUAREZ, MARIO G.
KRAMBECK, F. J.
see BISHOP, A. A.
KRAUS, ALLAN D., AND KERN, DONALD Q.
The effectiveness of heat exchangers with one shell pass and even numbers of tube passes. 65—HT-18.
KRAUS, CHARLES E.
Mechanical applications. 65—MD-30.
KRAUSE, IRVIN, MACH, RICHARD L., SEGRETO, ANTHONY J., AND PRZIREMBEL, HANS
The measurement of Poisson's ratio for viscoelastic materials in uniaxial compression. 65—WA/RP-8.
KRESS, T. S., AND NEILL, F. H.
Fission product transport and deposition under isothermal conditions. 65—unnumbered.
KREWSKI, T. M.
see HASLETT, R. A.
KRISHNOMOORTHY, C., AND BREWER, R. C.
On the reduction of material costs in tool-life testing. 65—PROD-8.
KROON, R. P.
see SWEENEY, A. W.
KRZYWOBLOCKI, M. Z. v.
Certain epihydrodynamic problems as generalized optimal boundary value processes. 65—AV-36.

KUDIRKA, A. A., GROSH, R. J., AND MCFADDEN, P. W.
Two phase heat transfer in a tube with gas injection from the walls. 65—HT-47.
KUHL, O. A.
see OLTMANN, A.
KUHLMANN, H. W., AND WOLTER, FRITZ
A study of laboratory methods for the evaluation of plastic pipe for gas-distribution uses. 65—PET-27.
KUNICA, SERGE
Servo-controlled pneumatic isolators—Their properties and applications. 65—WA/MD-12.
KUNKLE, ROBERT G.
see HEIDRICH, ARTHUR, JR.
KUO, K. L.
Graphical methods for determining operating points of a fan-motor assembly. 65—WA/FE-26.
KURZAK, K. H., AND REUTER, H.
Propulsion machinery of the "Koeln" class escort frigates with special consideration of gas turbine propulsion. 65—GTP-11.
KUSHNER, H. J.
New theorems and examples in the Liapunov theory of stochastic stability. 65—unnumbered.

L

LADENDORF, CHARLES K.
Operating experience with the world's largest package boiler. 65—WA/PWR-4.
LA FLEUR, JAMES
The closed-cycle gas turbine and cryogenics—A new application. 65—GTP-25.
LAKSHMINARAYANA, B., AND HORLOCK, J. H.
Methods of predicting the effect of shear flows on the outlet angle in axial compressor cascades. 65—WA/FE-2.
LAMONT, J. G.
In-the-door mechanical temperature control system for railroad cars. 65—WA/RR-3.
LANCE, G. M.
see LIITTSCHWAGER, J. M.
LANGE, W. A.
see GADD, C. W.
LA ROCCA, JAMES J.
Selection of drives and controls for system coordination. 65—MD-25.
LARSON, M. B.
see VAN SANT, J. H.
LARSON, ROBERT B.
Developing cost estimates for proposed work. 65—MD-16.
LAVERTY, W. F., AND ROHSENOW, W. M.
Film boiling of saturated nitrogen flowing in a vertical tube. 65—WA/HT-26.
LAWSON, GUSTAF R.
Using outside skills to supplement department. 65—MD-18.
LECHNER, THOMAS J.
see GOLDSCHMIED, FABIO R.
LEE, HENRY
New polymers for structural adhesives, honeycombs, and reinforced composites. 65—AV-22.
LEE, RICHARD A.
see PRADKO, FRED
LEES, B.
see GILLS, B. G.
LEHMAN, AUGUST F.
The influence of free air bubbles on cavity volumes and the associated noise signatures. 65—WA/FE-30.
LEIBY, D. W.
Control aspects of a large, dual-purpose nuclear reactor plant. 65—unnumbered.
LEMIZIS, S.
see CLEMMER, A. B.
LEMON, JASON R.
Reinforcing structural members. 65—unnumbered.
LEOPOLD, A. CARL
see ZINSMEISTER, GEORGE E.
LESSLEY, R. L., AND HODGSON, J. N.
Low-leakage dynamic seal to space. 65—GTP-14.
LEVESQUE, GEORGE N.
Error correcting action of hydrostatic bearings. 65—LUBS-12.
LEWIS, O. L., AND LORENZEN, A. M.
Design of a test system for deep ocean research. 65—WA/UNT-9.
LIGON, J. W., AND NELLES, M.
Trends in insulation and design applications of printed circuits and printed wiring. 65—unnumbered.
LIITTSCHWAGER, J. M., AND LANCE, G. M.
Design of a minimum inertia gear-reduction system. 65—unnumbered.
LIVINGSTONE, R.
see HARRINGTON, R.
LOHMEIER, A., AND REYNOLDS, S. D., JR.
Carbon-steel, feedwater-heater tube-to-tube sheet joints. 65—WA/PWR-10.
LORD, NORMAN W.
The dependence of sonar phase fluctuation upon thermal microstructure and the direction of propagation. 65—unnumbered.
LORENZEN, A. M.
see GROTZ, B. J.
LORENZEN, A. M.
see LEWIS, O. L.
LOVETT, F. W.
Modern rail and barge unloading systems. 65—PWR-10.
LOWEN, G.
The Mayor-Mises method. A powerful alternative to descriptive geometry for the graphical solution of 3-D mechanism problems. 65—unnumbered.
LUBIN, GEORGE
Plastics for high-strength structural applications. 65—MD-40.
LUBKIN, JAMES L.
Power transmission by multiple metal belts on imperfect pulleys. 65—WA/MD-7.
LUCKE, V. H.
Dynasar analysis methods. 65—unnumbered.
LUDEMA, K. C., AND TABOR, D.
A correlation of the frictional and viscoelastic properties of plastics and rubber. 65—LUB-15.
LUDWIG, J. H.
see ROHRMAN, F. A.
LUX, W. J.
Application of reliability principles to a diesel-electric set. 65—OGP-9.

M

MABIE, H. H.
The effect of housing interface fit on the running torque and radial play of miniature ball bearings. 65—LUBS-8.
MACAULAY, MALCOLM
Computer-aided drafting. 65—MD-36.
MACH, RICHARD L.
see KRAUSE, IRVIN
MANN, R. W.
Engineering design education. 65—unnumbered.
MANOS, W. P., AND SHANG, J. C.
Dynamic analysis of rolling freight cars. 65—WA/RR-8.
MANSTON, JAMES W.
see ROOS, NICO H.
MARIN, JOSEPH
see DAPPRICH, A. E.
MARK, M.
see FAIRBANKS, D. R.
MARRIS, A. W., AND SWIM, W. B.
Local relationships between turbulence stress gradients and mean secondary flow. 65—WA/FE-28.
MARSH, H. W.
see PETSINGER, R. E.
MARSH, R. O., AND ROCKENHAUSER, W.
Prestressed concrete structures for large power reactors. 65—WA/NE-9.
MARTA, HENRY A.
see KOCI, LUDVIK F.
MARTENS, WILLIAM R.
see VOGEL, WILLIAM H.
MARTIN, A. D.
see GENTILE, A. J.
MARTINEZ, JOHN L., WICKSTROM, JACK K., AND BARCELO, BRIAN T.
The whiplash injury—A study of head-neck action and injuries in animals. 65—WA/HUF-6.
MASON, H. L.
The evolution of control system standards. 65—unnumbered
MATIN, SHAIKH A.
A similarity solution for the condensate film on a vertical flat plate in presence of variable gravity field. 65—AV-42.
MATZNER, B.
see TONG, L. S.
MATZNER, B., CASTERLINE, J. E., MOECK, E. O., AND WIKHAMMER, G. A.
Critical heat flux in long tubes at 1000 psi with and without swirl promoters. 65—WA/HT-30.
MAY, H. F.
see WOOFTER, R. D.
MAY, JAMES W.
Evaluation of air filter test methods. 65—GTP-10.
MAYO, H. A., JR.
Tube turbine units and their application. 65—WA/FE-12.
MAZZOLI, GIORGIO, DEGREGORIO, GIUSEPPE, DIBITONTO, SAVINO, AND GLEIXNER, HENRY
Automation of unloading, conveying, and preparation of raw materials in the Italsider Steel Plant at Taranto. 65—MH-4.
MCCLUER, H.
see JAFFEE, H.
MCCLURE, ELDON R.
see BRYAN, JAMES B.
MCCOLLUM, J. D., AND MERRITT, C. H.
Design parameters and description of offshore cementing unit installations. 65—PET-21.
MCCORMICK, D. J., AND GORZEGNO, W. P.
The separately fired superheater—A nuclear application at Indian Point. 65—PWR-14.
MCDERMOTT, J. F.
Theoretical and experimental study of steel panels in which membrane tension is developed. 65—MET-15.
MCDONALD, A. T., AND FOX, R. W.
An experimental investigation of incompressible flow in conical diffusers. 65—FE-25.
MCELHANEY, JAMES H., AND BYARS, EDWARD F.
Dynamic response of biological materials. 65—WA/HUF-9.
MCFADDEN, P. W.
see KUDIRKA, A. A.
MCINTYRE, D. V.
see WINSLOW, P. M.
MCKAY, L. MERRIT
see GERVAIS, ROBERT L.
MCLEAN, WILLIAM J.
see BARNET, F. ROBERT
MCNAMARA, J. B.
ABS properties and applications. 65—WA/RP-10.
MCPHERSON, J. H.
Individual versus the group approach to creativity. 65—MD-19.
MEADOR, B. M.
Economic impact of aircraft maintenance. 65—AV-14.
MEDITCH, J. S.
Computers in the analysis and synthesis of navigation and guidance systems for spaceflight. 65—unnumbered.
MEDWELL, J. O., AND NICOL, A. A.
Surface roughness effects on condensate films. 65—HT-43.
MEINDL, J. D., AND HOHMANN, J. W.
Electronic-electrical developments. 65—MD-23.
MENTZ, R. M.
see DREWS, D. W.
MERRITT, C. H.
see MCCOLLUM, J. D.
MERRITT, H. E., AND STOCKING, G. L.
Limit cycle oscillations in servo loops due to friction. 65—unnumbered.
MESSINGER, BERNARD L.
Thermal management of the Lockheed-Model 2000 supersonic transport. 65—AV-40.
MEYERS, A. P.
Reliability of gears and bearings on machine systems design. 65—unnumbered.
MICKLE, SCOTT C.
see HART, R. J.
MIKULAK, JOHN
Composite and hybrid welding for greater economy and better product performance. 65—MD-48.
MILLER, J. W.
see TRUMBULL, R.
MILLER, L. A.
see JOYCE, C. P.
MILLER, W. E.
The impact of digital computers on automatic control of steel plant processes. 65—unnumbered.
MILLER, W. J.
see BIERMAN, G. F.
MILLS, E. S., AND BATTERSON, R. L.
Interplanetary mission life support system. 65—AV-33.
MINICH, R. W.
see STOKER, R. J.
MODREY, JOSEPH
Generalized variables and subscripture for systems analysis. 65—WA/MD-8.
MOECK, E. O.
see MATZNER, B.
MOECK, E. O., WIKHAMMER, G. A., STERN, F., AND DEMPSTER, R. T.
Dryout in a 19-rod bundle colled by steam/water fog at 515 psia. 65—HT-50.
MOECKER, DONALD L.
The new AGMA Manual for Machine Tool Gearing. 65—MD-20.
MOFFATT, W. CRAIG
Approximate solutions for skin friction and heat transfer in MHD channel flows. 65—HT-15.
MOLDENHAUER, J. G., STACHIW, J. D., TSUJI, K., AND STOWELL, D. T.
The design, fabrication and testing of acrylic pressure hulls for manned vehicles. 65—WA/UNT-10.
MONTGOMERY, H.
see JAFFEE, H.
MONTGOMERY, L. N.
see TOMLINSON, J. G.
MOORE, C. V.
An introduction to the ASME Unfired Pressure Vessel Code. 65—WA/MET-15.

MOORE, DESMOND F.
An energy balance for squeeze films. 65—LUBS-7.
MOORE, CLIFFORD J., JR.
see BLUM, HAROLD A.
MORGAN, GEORGE W.
Matrix method for scaling space flight vehicles. 65—AV-31.
MORGAN, JAMES I.
Fluid-power components. 65—MD-29.
MORRIS, EDGAR E.
see DARMS, FRED J.
MORRIS, JOHN M.
see GUTHRIE, JAMES J., JR.
MOSHER, R. S.
Dexterity and agility improvement. 65—unnumbered.
MULVANEY, WILLIAM P.
Fracture mechanics—Epoxy resins. 65—WA/RP-6.
MURFF, J. T.
see TAYLOR, C. C.
MYLES, A. H.
AC powered cranes—What motors and what control. 65—MH-3.

N

NA, TSUNG YEN, AND HANSEN, ARTHUR G.
Similarity analysis of the flow near an oscillating plate. 65—FE-21.
NAAS, F. A., AND ROUSH, C. W.
Silicone rubber comes of age. 65—WA/RP-3.
NEILL, F. H.
see KRESS, T. S.
NELLES, M.
see LIGON, J. W.
NELSON, H. W.
Trends in technology and economics of energy from fuels (Part I) Fuel availability, transport of energy, gasification and carbonization. 65—unnumbered.
NESS, HUGH W.
Pinpointing vibration in rotating machinery. 65—GTP-24.
NEUSEN, KENNETH F.
Void fractions in a developing two-phase flow system with flowing and nonflowing liquid phase. 65—HT-65.
NEVINS, RALPH G.
see HUNG, FRANK T.
NEVINS, RALPH G., ADVANI, G. H., AND HOLM, F. W.
Heat-loss analysis for deep-diving oceanauts. 65—WA/HT-25.
NEWELL, GEORGE C.
Aircraft systems development for the Boeing supersonic transport. 65—AV-13.
NEWMAN, RITCHEY O., JR.
Practical design with glass-fiber-reinforced epoxy for petroleum applications. 65—PET-46.
NEWTON, JOHANNES S.
Problems, solutions, and payoff in energy utilization. 65—AV-8.
NICOL, A. A.
see MEDWELL, J. O.
NICOLA, R. N.
Radio stepless control. 65—MH-9.
NIKIFORUK, P. N., UKRAINETZ, P. R., AND WRISTEN, W.
Analysis of a pulse-width-modulated hydraulic servo. 65—unnumbered.
NOEL, J. S., BEALE, L. A., AND TOPRAC, A. A.
An investigation of the stresses in welded tubular connections. 65—PET-39.
NOISEUX, DENIS U., AND WATTERS, BILL G.
A simple source of intense vibrations. 65—WA/MD-11.
NOLTE, G. H.
Sea experience with Pratt and Whitney aircraft FT12 gas turbine in LCM-8. 65—GTP-26.
NOTTAGE, H. B.
see STARRETT, P. S.
NOVAK, RICHARD A.
see CARTER, ANTHONY F.
NOVAKOVIC, M.
see AFGAN, N.

O

O'BRIEN, JOHN L., AND KING, ALWYN H.
Stress-induced microstructural changes and fatigue damage in hardened steel under contact loading. 65—LUBS-14.
OCHIEANO, M. L.
see GREEN, E. A.
ODÉN, J. H.
see CASTRO, L. F.
OLSON, ARTHUR R.
Shipboard stabilization of large antennas. 65—WA/AUT-8.
OLTMANN, A., AND KUHL, O. A.
Gamma radiation source and irradiator design. 65—WA/NE-2.
OPPENHEIM, ARTHUR, AND ORAN, FREDERIC M.
Use of scale-model aids in solution of complex airflow design problem. 65—GTP-12.
ORAN, FREDERICK M.
see OPPENHEIM, ARTHUR
ORNER, P. A., AND TAFT, C. K.
A pure fluid power amplifier. 65—unnumbered.
OUTWATER, JOHN O.
Particle materials. 65—MD-5.
OZISIK, M. NECATI, AND CEBECI, TUNCER
Dynamic stability of flow oscillations in a heated channel. 65—HT-45.

P

PAN, C. L., AND WELCH, N. E.
Exact analytical wall and fluid temperature field for a counterflow heat exchanger with the effect of longitudinal heat conduction. 65—HT-63.
PARRY, JOHN J.
see FOWLER, JACKSON E.
PASSINI, JON, AND DRESSER, DAVE
Techniques to optimize performance of radio control systems for overhead cranes. 65—MH-5.
PATTERSON, J. R.
see WOOFTER, R. D.
PATTON, KIRK T.
Tables of hydrodynamic mass factors for translational motion. 65—WA/UNT-2.
PEAKE, C. C., HOLDEN, P. C., BARNESS, E. J., AND PRICE, W. K.
Multipressure condenser application. 65—unnumbered.
PEARS, C. D.
see PYRON, C. M., JR.
PEARS, C. D.
see THORNBURGH, J. D.
PEARSON, A. E.
A function space approach to the identification of linear systems. Part I: Formulations for time invariant and time varying systems. 65—unnumbered.
PEARSON, J. W.
see BRYAN, JAMES B.
PENROD, E. B., AND STEWART, O. W.
Periodic transfer of solar energy in the earth. 65—WA/SOL-5.
PERLMUTTER, D. D.
see GURA, IRA
PERLMUTTER, MORRIS
Solution of rarefied-gas transport problems. 65—WA/HT-38.
PESKIN, R. L., AND DWYER, H. A.
A study of the mechanics of turbulent gas-solid shear flows. 65—WA/FE-24.
PETERSON, F. J.
see GADD, C. W.
PETSINGER, R. E., AND MARSH, H. W.
Design concepts for petroleum and chemical storage tanks. 65—PET-43.
PETSINGER, ROBERT E., AND HANKE, CARL C., JR.
Design of 9 percent nickel steel LNG storage tanks. 65—PET-47.
PEYRONNIN, CHESTER A., JR.
Design, mainstream of engineering. 65—WA/MD-10.
PHILLIPS, SAMUEL R.
Design of a canned pump for hazardous liquids. 65—WA/FE-3.
PIERCE, HAROLD B.
see RUNYAN, HARRY L.
PIETSCH, A.
Optimization and development of the solar Brayton cycle power system. 65—AV-30.
PIPHER, F. C.
see GREEN, E. A.
PIZZI, ALBERT L.
see BODEK, EDWARD J.
PONKSHE, G. R., AND SUDHINDRA, P. V.
Influence of interface temperature and rate of deformation on coefficient of friction in metal cutting. 65—PROD-3.
POOL, E. B.
Elastomeric seals for valves. 65—PET-16.
PRADKO, FRED, LEE, RICHARD A., AND GREENE, JAMES D.
Human vibration-response theory. 65—WA/HUF-19.
PRATT, KERMIT G.
see RUNYAN, HARRY L.
PRENTING, THEODORE O., III
Automatic assembly—The economic considerations. 65—WA/PROD-5.
PRESTRIDGE, J. C.
see CHESNER, R. J.
PRICE, J. F.
see KOH, J. C. Y.
PRICE, W. K.
see PEAKE, C. C.
PROSEN, STANLEY P.
see BARNET, F. ROBERT
PRZIREMBEL, HANS
see KRAUSE, IRVIN
PSICHOGIOS, T. P.
see CROKER, D. M.
PURI, N. N.
Pulse transfer function identification of a linear system by orthogonal networks. 65—WA/AUT-16.
PURI, N. N., AND DRAKE, RONALD
Liapunov functions and quadratic moments for high-order discrete systems. 65—WA/AUT-17.
PUTNAM, DAVID F.
Chemical aspects of urine distillation. 65—AV-24.
PYRON, C. M., JR., AND PEARS, C. D.
The mechanisms of heat transfer through porous materials at elevated temperatures. 65—HT-46.

Q

QUIRK, JOHN
Deep-ocean reactor placement study. 65—WA/UNT-11.

R

RADBILL, J. R.
Quasilinearization solution of the two-component boundary layer on an ablating wall. 65—WA/HT-41.
RADZKA, BENJAMIN
Make versus buy decision for precision parts. 65—MD-2.
RANDOLPH, B. W.
Fluid dynamics in a cylindrical container after gravitational body force varnishes abruptly. 65—AV-43.
RAO, M. ANANDHA
see SCHERBERG, MAX G.
RAPLEY, C.
see BAYLEY, F. J.
RASMUSSEN, J. E.
Unusual design requirements and solutions in submarine construction. 65—unnumbered.
RAWDON, A. H.
see BURKE, J. C.
REGAN, JOHN E.
see HAWORTH, RAYMOND F.
REID, WILLIAM T.
Trends in technology and economics of energy from fuels. Part 3—Electricity generation, direct conversion, and high-energy fuels. 65—WA/FU-3.
RENNER, HOWARD
Fluid motors. 65—MD-28.
REUTER, H.
see KURZAK, K. H.
REYNOLDS, S. D., JR.
see LOHMEIER, A.
REYNOLDS, W. E.
Reliability in production design. 65—unnumbered.
RICHARDS, CHARLES E., AND BECK, LAWRENCE O.
Availability of large fossil fuel fired, power-generating units. 65—PWR-8.
RICHTER, KENNETH E.
see BEREIS, KENNETH A.
RICHTER, ROBERT F.
Design and development of a unique cable tension regulator. 65—AV-23.
RIHM, ALEXANDER, JR.
New York State's ambient air quality objectives system. 65—PWR-1.
RINGWALD, A. S.
Designing and selecting equipment for a helicopter-transported drilling rig. 65—PET-42.
ROBERTS, L. R.
see CURRAN, R. M.
ROBERTS, V. CLARK
Human factors in ground-support equipment (control/indicator panel design). 65—WA/HUF-16.
ROBERTSHAW, RICHARD D.
Experimental facilities in a high flux pool-type test reactor. 65—WA/NE-1.
ROBINSON, E. Y.
Engineering application of Weibull statistics. 65—MET-21.
ROBINSON, VIRGIL L.
see TITTLE, C. W.
ROCHFORT, J. D.
see ANDERSON, T. L.
ROCHFORT, JEAN D.
see ANDERSON, THOMAS L.
ROCKENHAUSER, W.
see MARSH, R. O.

RODELY, A. E., CHANAUD, R. C., AND WHITE, D. F.
A digital flowmeter without moving parts. 65—WA/FM-6.
ROGGEVEEN, R. C.
Analog-computer simulations of end impact of railway cars. 65—RR-3.
ROHRER, W. M., JR.
see SMITH, O. GLENN
ROHRMAN, F. A., STEIGERWALD, B. J., AND LUDWIG, J. H.
Power plant and other sulfur dioxide emissions: 1940-2000. 65—PWR-15.
ROHSENOW, W. M.
see LAVERTY, W. F.
ROOS, NICO H., AND MANSTON, JAMES W.
Design and operational experience with a direct digital control installation. 65—WA/AUT-9.
ROOSEN, JOHN J.
see HEIDRICH, ARTHUR, JR.
ROSE, SEWELL C., JR., AND GRIFFITH, PETER
Flow properties of bubbly mixtures. 65—HT-58.
ROSENCRANTZ, DONALD M.
See BERAN, WILLIAM T.
ROSS, DONALD, AND UNGAR, ERIC E.
On piston slap as a source of engine noise. 65—OGP-10.
ROSSBACH, RICHARD J.
Critical flow of potassium vapor through instrumented converging-diverging nozzle. 65—GTP-22.
ROSSI, GENE A., AND JOHNSTON, JAMES H.
Composite sandwich for small, unmanned, deep-submergence vehicles. 65—UNT-2.
ROSSIE, JOHN P., AND TROMMERSHAUSEN, W. E.
Economics of mine-mouth thermal generation and 500-kv transmission. 65—PWR-4.
ROUSH, C. W.
see NAAS, F. A.
ROWLEY, D. S.
see BRIDWELL, HAROLD C.
ROWLEY, DAVID S.
see BRIDWELL, HAROLD C.
RUNYAN, HARRY L., PRATT, KERMIT G., AND PIERCE, HAROLD B.
Some hydro-elastic-pneumatic problems arising in the structural dynamics of launch vehicles. 65—AV-27.
RUTKOWSKI, ALBIN A.
Unique applications of AC crane control. 65—MH-2.

S

SANDBERG, R. O.
see BISHOP, A. A.
SANDERS, GUY J.
Noise control requirements of gas turbine driven peaking generators. 65—unnumbered.
SCANLAN, R. H.
Noise in rolling-element bearings. 65—WA/MD-6.
SCHALLA, CLARENCE A.
Solid-state refrigeration for inter-planetary space storage of hydrogen. 65—AV-10.
SCHANER, DAVID S.
Dynamic measurement of wire-line tension. 65—PET-37.
SCHARP, C. B.
see BECK, W. H.
SCHERBERG, MAX G., AND RAO, M. ANANDHA
Experimental investigation and confirmation of the reversed heat conduction in natural convection at a thermal leading edge on a vertical wall. 65—WA/HT-34.
SCHINDLER, MARVIN E., AND COLLIER, SAMUEL L.
Development and correlation of a mathematical model for a percussion drill. 65—PET-12.
SCHMITT, J. W., AND GITLOW, B.
Application of radioisotope Brayton cycle space power systems. 65—unnumbered.
SCHULTHEISS, ROBERT A.
Layered materials. 65—MD-12.
SCHUSTACK, ROBERT E.
Operating experience with cryogenic turbo-expanders. 65—WA/PID-5.
SCHWARTZ, MORTON DONALD
A sufficient condition for the existence of an admissible control for a class of optimiziation problems. 65—WA/AUT-12.
SCHWEIKART, H. C.
Flexibility and reliability—Basic features of Keystone's coal-handling facilities. 65—PWR-9.
SECORD, T. C.
see HAVENS, D. E.
SEDIO, MILAN J.
Use of technical services in new product design. 65—MD-7.
SEETOO, B. S.
see WOOFTER, R. D.
SEGEL, LEONARD
Display versus vehicle augmentation as a means for improving man-vehicle performance. 65—WA/HUF-10.
SEGRETO, ANTHONY J.
see KRAUSE, IRVIN
SERPAN, CHARLES Z., JR., STEELE, L. E., AND HAWTHORNE, J. R.
Radiation damage surveillance of power reactor pressure vessels. 65—unnumbered.
SEWELL, F. D.
Hydrogen embrittlement challenges tubular goods performance. 65—PET-13.
SHAMP, F. F.
Products pipeline automation through batch marking with fluorescent dye. 65—PET-29.
SHANG, J. C.
see MANOS, W. P.
SHARETTS, ROBERT R.
Deposition of plastic coatings by fluidized bed processes. 65—MD-17.
SHIELD, B. H.
Energy recovery utilizing a gas-fired turbine and a gas-expander turbine. 65—PET-9.
SHIPPY, D. J.
Geometric analog for transient heat conduction. 65—WA/HT-42.
SHUTTLEWORTH, A.
see HEDLEY, A. B.
SIAS, R. DOUGLAS
Dow's attack on noise or practical applications of noise abatement. 65—WA/HUF-12.
SIBLEY, L. B.
see VALORI, R. R.
SIDEMAN, S.
see BENTWICH, M.
SIEKMAN, P. W.
The unit train from the consumer's standpoint. 65—RR-1.
SILVER, FRANCIS
The breath of life. 65—WA/HUF-14.
SIMONDS, ROBERT L.
The properties, processing, and problems in manufacturing padding for automotive dash boards. 65—WA/RP-1.
SISSOM, LEIGHTON E., AND JACKSON, THOMAS W.
Temperature distribution of solids and fluid in fluid-to-particle heat exchange. 65—HT-17.
SIZER, PHILLIP S., AND FREDD, JOHN V.
Bottom hole production equipment for ocean-floor wells. 65—PET-30.
SKILLE, REIDAR J.
see WOOD, WILLIAM J.
SLAYMAKER, R. R.
Squeeze film load-carrying capacity (short bearing approximation). 65—WA/MD-19.
SMELOFF, E. A.
see DAVEY, T. B.
SMITH, C. R.
Design and test of the hot-cycle rotor system. 65—AV-46.
SMITH, E. S.
see BERARD, D. J.
SMITH, ENNIS C., GUNTER, ADDISON Y., AND VICTORY, SIDNEY P., JR.
Evaluation of fin tube performance under steady-state and thermal-cycling conditions. 65—HT-60.
SMITH, J. E.
see JANSEN, W.
SMITH, JERRY N.
On the practicality of manned planetary fly by missions. 65—AV-9.
SMITH, O. GLENN, TONG, L. S., AND ROHRER, W. M., JR.
Burnout in steam-water flows with axially nonuniform heat flux. 65—WA/HT-33.
SMITH, P. G., AND WILSON, L. V.
Development of an elevated-temperature centrifugal pump for a molten-salt nuclear reactor. 65—WA/FE-27.
SMITH, R. I., AND ECKERT, R. M.
Engineering and design features, No. 1 Unit, Hudson Generating Station. 65—unnumbered.
SNYDER, ROGER F.
see STACHIW, JERRY W.
SOHRE, J. S.
Transient torsional criticals of synchronous motor-driven, high-speed compressor units. 65—FE-22.
SORENSEN, E.
Large-bore diesels for modern power stations and sea-going ships. 65—OGP-11.
SPAETH, CHARLES E.
see VOGEL, WILLIAM H.
SPERA, FRANK T.
Functions of an advanced design engineering section. 65—unnumbered.
SPOHN, H. C., AND HULLENDER, W. C.
Mechanical aspects of nuclear fuel reprocessing. 65—unnumbered.
STAAB, L. J.
see KESKA, K. R.
STACHIW, J. D.
see MOLDENHAUER, J. G.
STACHIW, JERRY W., AND SNYDER, ROGER F.
The design and fabrication of glass and ceramic deep-submergence, free-diving instrumentation capsules with capabilities of 3500 fathoms. 65—UNT-1.
STARRETT, P. S., HALFPENNY, P. F., AND NOTTAGE, H. B.
Survey of information concerning the effects of nonstandard approach conditions upon orifice and venturi meters. 65—WA/FM-5.
STEELE, L. E.
see SERPAN, CHARLES Z., JR.
STEEN, R. C.
see CARTWRIGHT, J. S.
STEIGERWALD, B. J.
see ROHRMAN, F. A.
STENNING, A. H., AND VEZIROGLU, T. N.
Oscillations in two-component, two-phase flow. 65—FE-24.
STEPHENS, J. O., YOUNG, W. E., AND BOHO, M. J.
More kilowatts for less dollars. 65—PRW-3.
STERN, F.
see MOECK, E. O.
STERNE, R. H., JR.
see FOGLEMAN, E. L.
STEVENS, MORRIS H.
Diaphragm-actuated valves for on-off service. 65-PET-15.
STEVERDING, B.
A general method to increase the heat of ablation and the performance of injection cooling. 65—WA/HT-49.
STEWART, O. W.
see PENROD, E. B.
STICHA, E. A., AND BANKS, W. C.
Stability of modified type 316 austenitic steels for valve applications at elevated temperatures. 65—WA/PET-3.
STOCKING, G. L.
see MERRITT, H. E.
STOECKLY, E. E.
Marinization of the General Electric LM 1500 gas turbine. 65—GTP-20.
STOKER, R. J., AND MINICH, R. W.
Surface-condenser steam-dome geometry. 65—PWR-11.
STOWELL, D. T.
see MOLDENHAUER, J. G.
STROHMEYER, CHARLES, JR.
Starting and operating once-through steam generators. 65—WA/PWR-11.
STROMQUIST, A. J.
Development of a two stage mercury vapor turbine for space power. 65—unnumbered.
STRONG, PETER F., AND EMSLIE, ALFRED G.
The method of zones for the calculation of temperature distribution. 65—WA/HT-47.
STUBSTAD, W. R.
Thermal contact resistance between thin plates in vacuum. 65—HT-16.
SUAREZ, M. G., AND ZEITLIN, A.
Concrete pressure vessels for large reactors. 65—unnumbered.
SUAREZ, MARIO G., AND KRAMAROW, NATHAM M.
Large prestressed concrete vessels for deep submergence testing. 65—WA/UNT-8.
SUDHINDRA, P. V.
see PONKSHE, G. R.
SWANSON, E. E., AND JASANY, F. A.
New concepts in instrumentation and control applied to Unit No. 1 Hudson Generating Station. 65—unnumbered.
SWEARINGEN, JUDSON S.
Turboexpanders—Loading methods and control. 65—WA/PID-4.
SWEENEY, A. W., BYERS, R. K., AND KROON, R. P.
Mechanical characteristics of bone and its constituents. 65—WA/HUF-7.
SWIM, W. B.
see MARRIS, A. W.
SWINNEY, GORDON W.
"Instant" meter proving. 65—WA/FM-4.
SZWARCBAUM, G.
see BENTWICH, M.

T

TABOR, D.
see LUDEMA, K. C.
TAFT, C. K.
Impact of fluid amplifiers on design of metal-working machines. 65—MD-43.
TAFT, C. K.
see ORNER, P. A.
TALLIAN, T. W.
see VALORI, R. R.
TANG, T.
Design and analysis of self-acting gas-lubricated slider bearings for noncontact magnetic recording. 65—WA/MD-18.
TANGEL, J. E.
see HUSE, R. A.
TAYLOR, C. C., AND MURFF, J. T.
Operation of a two-rig program from a single-platform West Delta Block 73 field. 65—PET-45.
THACKER, B. G.
Gas processing plant modernization. 65—PET-8.

THANOS, S. N., AND HUBBARD, ARTHUR C.
Two-way hydroacoustic communications link for an ocean-bottom seismograph. 65—unnumbered.

THERIAULT, PAUL W.
The Lockheed rigid-rotor system. 65—AV-11.

THOMASON, HARRY E.
Three solar houses. 65—WA/SOL-3.

THOMPSON, FREDERICK W., JR.
Chemical problems in atmosphere control. 65—AV-47.

THORNBURGH, J. D., AND PEARS, C. D.
Prediction of the thermal conductivity of filled and reinforced plastics. 65—WA/HT-4.

TICHAUER, E. R.
The biochemics of the arm-back aggregate under industrial working conditions. 65—WA/HUF-1.

TINDALL, J. W.
see WEINER, M. M.

TIPPING, WILLIAM E., JR.
see BAUMANN, NELSON P.

TITTLE, C. W., AND ROBINSON, VIRGIL L.
Analytical solution of conduction problems in composite media. 65—WA/HT-52.

TOMLINSON, J. G., AND MONTGOMERY, L. N.
Elimination of turbine erosion in the T56 turboprop engine. 65—WA/GTP-9.

TONG, L. S., BISHOP, A. A., CASTERLINE, J. E., AND MATZNER, B.
Transient DNB test on CVTR fuel assembly. 65—WA/NE-3.

TONG, L. S.
see BISHOP, A. A.

TONG, L. S.
see SMITH, O. GLENN

TOPPING, A. D.
Buckling characteristics of inflated fabric cylinders in pure bending. 65—AV-5.

TOPRAC, A. A.
see NOEL, J. S.

TOWFIGH, KEIVAN
see JOHNSON, RAY C.

TROMMERSHAUSEN, W. E.
see ROSSIE, JOHN P.

TROUT, DELMAR E.
see DUFFY, EDWARD J.

TRUMBULL, R., WAGNER, C. M., AND MILLER, J. W.
The psychological aspects of underwater habitability and their relation to engineering. 65—unnumbered.

TSUJI, K.
see MOLDENHAUER, J. G.

TUGGLE, J. R.
see ENFIELD, F. D.

TULLY, FRANK A.
Modern AC crane drives. 65—MH-7.

U

UKRAINETZ, P. R.
see NIKIFORUK, P. N.

UNGAR, ERIC E.
see ROSS, DONALD

V

VAILL, E. W.
Innovations in molding thermosets. 65—WA/RP-5.

VALORI, R. R., TALLIAN, T. W., AND SIBLEY, L. B.
Elastohydrodynamic film effects on the load-life behavior of rolling contacts. 65—LUBS-11.

VAN DER WERF, P.
see BONAMY, S. E.

VAN HOOMISSEN, J. E., AND CASE, J. M.
Application of nuclear thermionics to undersea technology. 65—UNT-4.

VAN SANT, J. H., AND LARSON, M. B.
Convection heat transfer for turbulent flow in subsonic diffusers. 65—HT-64.

VATSARAJ, B. C.
see HSU, S. T.

VELZY, CHARLES R.
Potentials in incineration. 65—WA/PID-10.

VEZIROGLU, T. N.
see STENNING, A. H.

VICARS, E. C.
Honeycomb—An engineered material. 65—AV-17.

VICTORY, SIDNEY P., JR.
see SMITH, ENNIS C.

VOGEL, WILLIAM H., SPAETH, CHARLES E., WARING, DANA B., MARTENS, WILLIAM R., AND DONACHIE, MATTHEW J., JR.
Thermal-fatigue analysis applied to turbine airfoils. 65—GTP-17.

VOGT, W. C.
Transient response from the Liapunov stability equation. 65—unnumbered.

VOORHEES, HOWARD R.
see YOUNG, EDWIN H.

W

WAGNER, C. M.
see TRUMBULL, R.

WALCHLI, H. E.
Design features and experience with a rail car mounted, 75 tons, forced circulation irradiated fuel transport cask. 65—unnumbered.

WALKER, J. A.
Extension of the integral method of Liapunov function of generation to coupled nonlinear autonomous systems. 65—unnumbered.

WALKER, WILLIAM J., AND HOWELL, JOHN K.
Transit expressway medium-density mass transit system. 65—RR-5.

WALLACE, F. J., AND BLAIR, G. P.
The pulsating-flow performance of inward radial-flow turbines. 65—GTP-21.

WARD, CHARLES E.
see BRIDWELL, HAROLD C.

WARD, FRED L.
Application of solid-state urethanes from liquid materials. 65—WA/RP-7.

WARD, TERRY
A new look at manufacturing startup, planning, and control. 65—WA/MGT-1.

WARING, DANA B.
see VOGEL, WILLIAM H.

WARREN, GLENN B.
Fuel-economy gains from heated lean air-fuel mixtures in motorcar operation. 65—WA/APC-1.

WARREN, GLENN B.
Some factors influencing motorcar fuel consumption in service. 65—WA/APC-2.

WATSON, J. M.
Dynasar input/output concepts. 65—unnumbered.

WATSON, R.
see ARMSTRONG, A. J.

WATTERS, BILL G.
see NOISEUX, DENIS U.

WEBB, JESSE H.
Melt fracture—A correlation with rheological parameters. 65—WA/RP-4.

WECHSLER, A. E.
see GLASER, P. E.

WEIL, N. A., GARRETT, J. H., AND JENEY, A. F.
Development of the new family of Cummins natural gas engines. 65—OGP-13.

WEIL, N. A.
see CHENG, D. H.

WEINER, GENE H.
Plating on plastics. 65—MD-4.

WEINER, M. M., TINDALL, J. W., AND CANDELL, L. M.
Radiative interchange factors by Monte Carlo. 65—WA/HT-51.

WEINERT, EUGENE P., AND CARLTON, GILBERT A.
Salt-water problems in marine gas turbines. 65—GTP-18.

WEISSMANN, T.
see DE RIENZO, P. P.

WELCH, N. E.
see PAN, C. L.

WELLAUER, E. J.
Predicting the life of gears, shafts and bearings—A systems approach. 65—MD-6.

WELLY, T. J.
Fiberglas-reinforced plastics in the railroad industry. 65—RR-4.

WESNER, JOHN W., JR.
see BRAUN, HOWARD E.

WETHERAL, THOMAS G., AND ATHA, LARRY C.
Flueric controls, a description of available components and current applications. 65—WA/AUT-21.

WHEELER, ELMER L.
Analysis of turbulent lubrication using Prandtl's mixing-length theory. 65—LUB-17.

WHITE, D. F.
see RODELY, A. E.

WHITE, LEONARD A.
see HIRSCH, ARTHUR E.

WHOOLEY, J. P.
see CHEPPA, E.

WICKSTROM, JACK K.
see MARTINEZ, JOHN L.

WIENS, FRANK B.
Practical solutions to impractical problems. 65—MD-34.

WIKHAMMER, G. A.
see MATZNER, B.

WIKHAMMER, G. A.
see MOECK, E. O.

WILLHELM, A. C.
see KATTUS, J. R.

WILLIAMS, D. H.
see CURRAN, R. M.

WILLIAMS, LEONARD E., JR., JONES, MARVIN R., AND BROOKS, ROBERT C.
Design of a remotely operated tubular connector for high reliability. 65—PET-18.

WILLIAMSON, D.
see KING, R. E.

WILSON, D. G.
The specification of high-mass-flow intercooled air compressors for process applications. 65—WA/FE-25.

WILSON, D. G., AND JANSEN, W.
The aerodynamic and thermodynamic design of cryogenic radial-inflow expanders. 65—WA/PID-6.

WILSON, L. V.
see SMITH, P. G.

WILSON, R. B.
Crew survival goals for space missions. 65—WA/HUF-18.

WINKELMAN, F. W.
Ash-handling problems and practices in large thermal power stations. 65—PWR-13.

WINSLOW, P. M., HORWITZ, D., AND MCINTYRE, D. V.
Adhesion and cohesion of metals in the space environment. 65—MET-16.

WIRTA, R. W.
EMG control of external power. 65—WA/HUF-3.

WITT, C. J.
The lunar excursion model flight control system. 65—unnumbered.

WOJCIK, CHARLES K., AND HULBERT, SLADE F.
The driving simulator—A research tool. 65—WA/HUF-13.

WOLF, HERBERT
see BECK, JAMES V.

WOLTER, FRITZ
see KUHLMANN, H. W.

WONG, L. F.
An analysis of aluminum drill-pipe stresses. 65—PET-19.

WOOD, WILLIAM J., AMUNDSEN, EINAR K., AND SKILLE, REIDAR J.
Preparation and organization of written proposals. 65—MD-32.

WOOFTER, R. D., SEETOO, B. S., MAY, H. F., AND PATTERSON, J. R.
Design, installation, and operation of Community Public Service Company's gas turbine with exhaust-heat boiler. 65—PWR-2.

WORTHINGTON, P. L.
Design of lightweight castings. 65—MD-3.

WRIGHT, CARL D., JR.
The use of diaphragms in pneumatic systems. 65—WA/RR-2.

WRISTEN, W.
see NIKIFORUK, P. N.

Y

YANG, KWANG-TZU
see HORDMANN, GARY J.

YANG, PHILIP M.
Nonlinear steady flow forces of hydraulic valves. 65—WA/AUT-20.

YANG, WEN-JEI
Transport phenomena from cylinders in reciprocating harmonic rotation including uniform suction or blowing. 65—WA/HT-6.

YELTON, F. L.
Lubricating oils as developed for crankcase and power cylinders of natural-gas engines. 65—OGP-8.

YODER, CARL B.
Accelerated testing—A paper delivered before the 1965 Design Engineering Conference. 65—unnumbered.

YOUNG, EDWIN H., AND VOORHEES, HOWARD R.
The experimental determination of onset of yielding in pressure vessels. 65—WA/PET-1.

YOUNG, W. E.
see STEPHENS, J. O.

YUILL, CALVIN H.
Flammability of plastics. 65—MD-35.

Z

ZEIT N, A., AND BOGGIO, F. G.
Steel vessels for large nuclear reactors. 65—unnumbered.

ZEITLIN, A.
see SUAREZ, M. G.

ZIMMERMAN, CARROLL L.
The importance of the "big picture." 65—WA/AV-4.

ZINSMEISTER, GEORGE E., LEOPOLD, A. CARL, AND DIXON, JOHN R.
The measurement of sap flow in leaf petioles by a thermal method. 65—WA/HT-43.

ZISFEIN, MELVIN B.
The application of fluid-state devices to process-control computation. 65—WA/PID-11.

ZOROWSKI, CARL F.
see HART, FRANKLIN D.

Index to

MECHANICAL ENGINEERING

Volume 88, January—December, 1966

A

ABLATION
Ablative rocket-nozzle design for earth entry (A) ..... Jl 70
Boundary-layer cooling by spattered particles (A) ..... N 87
A general method to increase the heat of ablation and the performance of injection cooling (A) ..... Ja 78
Quasi-linearization solution of the two-component boundary layer on an ablating wall (A) ..... Ja 79
ACCELERATORS. *See* PARTICLE ACCELERATORS
ACCELEROMETERS
Homemade calibrator (A) ..... My 136
ACKERMAN, ADOLPH J.
The case against atomic power (C) ..... Jl 78
ACOUSTICAL FATIGUE. *See* NOISE ABATEMENT
ACOUSTICS
Flaming sound (A) ..... Mr 66
ADAMS, D. M.
Critical lengths in subsonic and supersonic gas-particle flow in a vertical constant area tube (A) ..... Jl 74
ADAMS, EARL E.
Obituary ..... Ap 121
ADAMS, ROBERT B.
Application of fluidic valves (A) ..... F 76
ADELBERG, MARVIN
Thermal design of electronic packages (A) ..... Ja 77
ADHESIVES. *See* BONDING
ADVANI, G. H.
Heat-loss analysis for deep-diving oceanauts (A) ..... Ja 77
AERODYNAMICS
The C_p for accelerated slender bodies (A) ..... Ap 83
Principles of similitude (A) ..... Mr 72
Theory of a thin-ring airfoil in a incompressible inviscid source flow field (A) ..... Jl 74
AFGAN, N.
A new method of burnout detection (A) ..... Ja 75
AIR
The dynamics of real air from subcritical temperature to 1500 K (A) ..... S 84
AIR CONDITIONING. *See* HEAT PUMPS
AIRCRAFT
"Head up" flight system (A) ..... Ja 67
Jet set (A) ..... F 57
Selecting transmission systems for high-speed lightweight applications (A) ..... Jl 66
Supersonic transport aircraft high-performance fluid power systems and components (A) ..... Ag 60
Thermal management of an SST ..... Ja 30
AIRCRAFT ENGINES. *See also* GAS TURBINES
Flight of the scramjet (A) ..... Ja 54
AIRFOILS
Theory of a thin-ring airfoil in a incompressible inviscid source flow field (A) ..... Jl 74
AIR HEATERS. *See* HEATERS AND HEATING
AIR POLLUTION
ASME publishes air pollution standard S 111
The breath of life (A) ..... Ap 88
Conservation — not pollution (A) ..... Ja 88
Continuous wet analysis of the atmosphere (A) ..... Ag 42
Engineers — not the State: The experts should solve the massive environmental problems (A) ..... My 163
Fuel-economy gains from heated lean air-fuel mixtures in motorcar operation (A) ..... Ap 84
An important message for our times ..... D 81
The menace — air pollution ..... D 76

Issue	Letter Code
January	Ja
February	F
March	Mr
April	Ap
May	My
June	Je
July	Jl
August	Ag
September	S
October	O
November	N
December	D

AIR POLLUTION (*Continued*)
New fuel additive (A) ..... Ap 76
Polynuclear hydrocarbon emission from coal-fired installations (A) ..... N 86
Some factors influencing motorcar fuel consumption in service (A) ..... Ap 84
Trends in steam station design affecting air pollution (A) ..... N 86
ALBERTSON, CURTIS C.
Appointed works manager of Nephi (Utah) Works, thermoid division ..... Ap 116
ALBRIGHT, H. C.
Information processing for the small and medium-sized engineering department (A) ..... Ag 61
ALDAG, HOWARD W.
Pulse-jet engine as a prime mover (A) ..... Ja 68
ALGER, PHILIP L.
Goals of engineering education (D) ..... My 156
ALLEN, C. M.
Determination of stresses in rolling-contact elements (A) ..... D 65
A theory of lubrication by microirregularities (A) ..... Mr 85
ALLEN, J. L.
Containment for nuclear reactors (D) ..... Mr 92
ALLEN, J. W.
Eddy-current inspection of pipe at 2150 F (A) ..... P 83
ALLEN, R. P.
An axial-flow reserving gas turbine for marine propulsion (A) ..... My 144
ALLEN, ROBERT C.
Retired as senior engineering consultant, Allis-Chalmers ..... F 105
ALLEN, T. KEITH
Promoted to recruiting coordinator for American Oil Company's manufacturing department ..... O 98
ALLER, WILLIS F.
Elected Fellow of ASME ..... N 117
ALLISON, CARL O.
Obituary ..... N 119
ALUMINUM
Design stresses for aluminum (BR) ..... Ap 103
Shock waves produced by small stress increments in annealed aluminum (A) ..... N 84
Two welds for aluminum (A) ..... My 132
ALVES, A. L.
Impact properties of ferrous sintered metals produced under varying conditions (A) ..... Ag 63
ALVES, A. R.
Impact properties of ferrous sintered metals produced under varying conditions (A) ..... Ag 63
ALVIS, N. G.
Electric hydraulic governor control for industrial and commercial gas turbine use (A) ..... Je 70
AMBLER, C. M.
Centrifuge design concepts — vertical and horizontal axis configurations (A) ..... Jl 66
AMERICAN SOCIETY OF MECHANICAL ENGINEERS
Codes and Standards
ASME publishes air-pollution standard S 111
Code for pressure piping (C) S 88; N 88; D 70
Codes and Standards workshop ..... Ap 100
Committees
Consulting engineers committee? Proposal calls for formation of an ASME Committee ..... Ag 75
Executive Committee actions ..... Mr 107; Ap 109; My 174; Je 106; Jl 101; S 109; D 95
Metal Properties Council — formed to review, coordinate, and distribute metal engineering data ..... Ag 76
1967 National Nominating Committee organized ..... Ag 79
Council
Annual report to the membership ..... S 123
Meeting, 1965 ..... Mr 106
Design problem contest winners announced ..... S 108
Honors and Awards ..... Ja 98, 100, 101
New Award — J. Hall Taylor Medal F 98
Inside ASME ..... Ja 120; F 108; Mr 122; Ap 122; My 180; Je 17; Ag 13; O 104; N 120; D 104
Meetings
AIAA/ASME Structures and Materials Conference program, 1966 ..... F 101
Air Pollution Seminar program, 1966 Mr 117
American Power Conference, 1966 Jl 98
American Power Conference program, 1966 ..... Mr 113
ASME-ASLE Lubrication Conference, 1966 ..... D 88
ASME-ASLE Lubrication Conference program, 1966 ..... S 112
ASME-EIC Fluids Engineering Conference program, 1966 ..... Mr 111
Calendar of meetings ..... Ja 111; F 102; Mr 103; Ap 112; My 172; Je 91; Jl 102; Ag 74; S 105; O 87; N 101; D 86
Design Engineering Conference, 1966 Jl 88
Design Engineering Conference and Show program, 1966 ..... My 28
Design Engineering Show, 1966 (A) Ag 48
Diesel and Gas Engine Power Conference, 1966 ..... Je 100
Diesel and Gas Engine Power Conference and Exhibit program, 1966 ..... Mr 109
Flow Measurement Conference, 1966 D 92
Fluid Meters 50th Anniversary Conference program, 1966 ..... Ag 84
Fluids Engineering Conference, 1966 Jl 96
Gas Turbine Conference and Products Show, 1966 ..... My 166
Gas Turbine Conference and Products Show program, 1966 ..... Ja 114
Human Factors Engineering Conference, 1966 ..... Je 94

(A) denotes Abstract; (AC) Author's Closure; (BR) Book Review; (C) Correspondence; (D) Discussion; (Ed) Editorial

ASME *(Continued)*
Human Factors Engineering Conference program, 1966 ..... F 100
International Heat Transfer Conference, 1966 ..... O 88
International Heat Transfer Conference and Exhibit program, 1966 ..JI 103
Intersociety Energy Conversion Engineering Conference, 1966 ..... N 106
Intersociety Energy Conversion Engineering Conference program, 1966 Ag 83
Joint Automatic Control Conference, 1966 ..... O 90
Joint Automatic Control Conference program, 1966 ..... JI 107
Joint Engineering Management Conference, 1966 ..... N 108
Joint Engineering Management Conference program, 1966 ..... Ag 82
Joint Symposium on Combustion and Air Pollution, 1966 ..... D 76
National Incinerator Conference, 1966 Je 97
National Incinerator Conference and Exhibit program, 1966 ..... Mr 114
National Transportation Symposium and Joint Railroad Conference, 1966 JI 92
Ninth Mechanisms Conference, 1966 D 90
Ninth Mechanisms Conference program, 1966 ..... Ag 85
Petroleum Mechanical Engineering Conference, 1966 ..... N 104
Petroleum Mechanical Engineering Conference program, 1966 ..... Ag 80
Plant Engineering and Maintenance Division Conference, 1966 ..... Je 92
Plant Engineering and Maintenance Division Conference program, 1966 Mr 112
Power Generation Conference, 1966..N 110
Power Generation Conference program, 1966 ..... Ag 82
Production Engineering Conference (with ASTME Conference and Tool Show) program, 1966 ..... Mr 108
RAC Meetings Schedule, 1966 ..... F 103
Regional Student Conference Schedule, 1966 ..... Ja 113
Reliability and Maintainability Conference, 1966 ..... S 106
Reliability and Maintainability Conference program, 1966 ..... Je 104
Spring Lubrication Symposium and Symposium on Friction and Lubrication in Metal Processing program, 1966 ..... Ap 113
Summer Annual Meeting program, 1966 ..... Ap 115
Technology Executives' Conference Ap 114
Textile Engineering Conference, 1965 Je 102
Textile Engineering Conference program, 1966 ..... Mr 109
Transportation Symposium and Railroad Conference program, 1966 Mr 115
Winter Annual Meeting, 1965 ..... Ja 95
Members
Fellows elected ..... Ja 116; Mr 118; Ap 119; My 175; Je 108; JI 110; Ag 88; S 118
Membership
Candidates ..... Ja 118; F 106; Mr 120; Ap 120; My 177; Je 108; JI 111; Ag 89; S 120; O 101; N 118; D 102
Membership Development Committee: Drive in high gear — initiation fees waived ..... O 92
News ..... Ja 94; F 97; Mr 104; Ap 106; My 166; Je 92; JI 88; Ag 75; S 102; O 82; N 102; D 87
Obituaries ..... Ja 119; F 107; Mr 121; Ap 121; My 179; Je 111; JI 112; Ag 91; S 121; O 102; N 119; D 103
Organization
Divisions' opinions sought (C) ..... Je 82
The new structure (Ed) ..... Ag 13
Publications
Availability list of ..... F 96; Mr 102; Ap 103; Je 77, 89; S 108; O 81; N 98; D 85, 130
Availability list of Winter Annual Meeting papers, 1965 ..... Ja 160
1967 Mechanical Engineers' Catalog and Product Directory ..... O 81
New Transactions quarterly: *Journal of Lubrication Technology* to become sixth in the *Transactions* series ....N 113
Older and wiser protests (C) ..... Je 83
Summer Supplement, 1966 ..... My 195
Standards. *See* Codes and Standards

ASME *(Continued)*
Student Sections
Regional Student Conference Reports, 1966 ..... O 96
Regional Student Conference Schedule, 1966 ..... F 103
Tax free: with obligations (Ed) ..... S 39
Technical Digest ..... Ja 68; F 70; Mr 78; Ap 78; My 142; Je 64; JI 64; Ag 56; S 82; O 62; N 78; D 60
Women's Auxiliary announces Scholarship Awards to mechanical engineering students ..... D 97
AMERICAN STANDARDS ASSOCIATION
ASA to seek Federal charter and name change ..... Mr 98
USA Standards Institute ..... N 95
AMUNDRUD, G. L.
Gas turbine engines in the Royal Canadian Navy prototype hydrofoil vessel (A) ..... My 144
ANASTASIJEVIC, P.
A new method of burncut detection (A) Ja 75
ANCHORS
Investigation of embedment anchors for deep-ocean use (A) ..... N 78
New engineering techniques for application to deep-water mooring (A) ..... N 81
ANDERSON, C. E.
Elastometric seals for valves (D) ..... JI 78
ANDERSON, EINAR F.
Obituary ..... F 107
ANDERSON, JAMES H., JR.
Large-scale sea thermal power (A) ..... Ap 89
Thermal power from seawater ..... Ap 41
ANDERSON, J. HILBERT
Expansion turbine (A) ..... Ja 69
Large-scale sea thermal power (A) ..... Ap 89
Thermal power from seawater .... Ap 41; (AC) JI 80
ANDERSON, J. T.
A review of digital-computer heat transfer programs (A) ..... Ja 79
ANDERSON, KENNETH E.
Pipelines in Libya ..... JI 42
ANDERSON, R. F.
Pulse-generator feedback systems (A) ..S 82
ANDERSON, THOMAS
Obituary ..... Ag 91
ANDERSON, T. L.
Snap reactor transient test machine (A) My 153
ANDERSON, THOMAS P.
Became professor and chairman of the department of mechanical engineering in The University of Iowa's College of Engineering ..... D 99
ANDREWS, D. E.
Prediction of pressure loss during two-phase horizontal flow in two-inch pipe (A) ..... O 67
ANDRUS, J. R.
Operating experience with control system's No. 1 unit — Hudson Generating Station (A) ..... Ja 72
ANGELINO, G.
Perspectives for the liquid phase compression gas turbine (A) ..... Je 69
ANSELL, S. D.
Application of a hybrid computer system to human factors research (A) ..... Je 73
ANTENNA SYSTEMS
Antenna two ten (A) ..... JI 53
The circular adjuster (A) ..... D 62
140-foot radio telescope (A) ..... JI 65
ANTONSEN, A. K.
Development of compact 1000-hp-per-cylinder engine (A) ..... Je 66
APPELBLATT, I.
Selecting transmission systems for "stop-and-go" applications (A) ..... JI 68
APPL, F. C.
Heat transfer of thin fins with temperature-dependent thermal properties and internal heat generation (A) ..... Mr 81
APPROXIMATION THEORY. *See* MATHEMATICS
APRHORP, H.
Use of natural gas in the cupola (A) Mr 86
ARCHIBALD, F. R.
The Rayleigh step bearing applied to a gas-lubricated journal of finite length (A) ..... Mr 84
ARCS
Experimental investigation of a magnetically balanced arc in a transverse argon flow (A) ..... Mr 86
ARMOR
New armor (A) ..... My 131
ARMSTRONG, A. J.
Bursting characteristics of thin metal diaphragms in shock tubes (A) ..... Ap 86
ARNAS, O. A.
Transport processes in magnetosolid-mechanics (A) ..... N 84

ARNER, WILLIAM R.
Appointed assistant chief engineer for the national cylinder gas division of Chemetron Corporation ..... Je 108
ARNOLD, ANTHONY P.
Obituary ..... Je 111
ARONSON, DAVID
Heat exchanger using short tubes for efficient operation in laminar flow region (A) ..... Ja 76
ARWAS, E. B.
Modern gas-bearings turbomachinery
Part 1: state-of-the-art ..... Ja 24
Part 2: research and application ..... F 42
Steady-state and dynamic characteristics of a full circular bearing and a partial arc bearing in the laminar and turbulent flow regimes (A) ..... Ag 63
ASH. *See* FUELS
ASTRONOMY
The hills of gravity (A) ..... My 130
ATHA, LARRY C.
Flueric controls, a description of available components and current applications (A) ..... Mr 83
ATLAS, J. D.
Development and testing of wear-reducing marine diesel cylinder lubricants (A) ..... Je 64
ATWATER, HARRY A.
Obituary ..... D 103
AU, TUNG
Analysis of shells of revolution with arbitrary meridians (A) ..... N 81
AUE, G. K.
Operating experience with large Sulzer diesel engines (A) ..... Je 64
AUGER, C. P. (author)
Engineering eponyms BR) ..... N 90
AUSMAN, J. S.
Gas squeeze-film stiffness and damping torques on a circular disk oscillating about its diameter (A) ..... D 64
AUTOMATIC CONTROL. *See also* FLUID AMPLIFIERS
Design and operational experience with a direct digital control installation (A) Mr 83
An energy-optimal control law for a system with bounded time and control (A) ..... Mr 84
An extension of the describing-function method (A) ..... Mr 82
Feasibility study of a fluidic control subsystem (A) ..... Mr 82
Identification of systems described by partial differential equations (A) ....Mr 82
Integrated circuits for machine controls (A) ..... JI 67
Joint Automatic Control Conference, 1966 ..... O 90
Liapunov functions and quadratic moments for high-order discrete systems (A) ..... Ap 90
Linear and rotary resolvers in position-control systems (A) ..... JI 68
A nonlinear filter for independent gain and phase (with applications) (A) Mr 82
Nonlinear steady-flow forces of hydraulic valves (A) ..... Mr 83
On the almost sure stability of linear stochastic distributed-parameter dynamical systems (A) ..... Ap 82
Pulse-generator feedback systems (A) ..S 82
Pulse transfer function identification of a linear system by orthogonal networks (A) ..... Mr 82
Shipboard stabilization of large antennas (A) ..... Mr 84
Stability conditions for a class of distributed-parameter systems (A) ....Mr 84
A sufficient condition for the existence of an admissible control for a class of optimization problems (A) ..... Mr 82
Systematic determination of practical stability regions for nonlinear systems (A) ..... Ap 90
Transfer functions on the pneumatic capacitance (A) ..... Ap 90
AUTOMATION
Automatic assembly: the economic considerations ..... Ag 29
Automatic assembly — the economic considerations (A) ..... Ap 86
Automation concepts for tank truck loading facilities (A) ..... N 81
Mechanization of bobbin-wound coils (A) ..... Ap 87
Turn of the screw (A) ..... O 49
Wrapping flat-type resistors (A) ..... Ap 87
AUTOMOTIVE ENGINEERING
Computer-aided design of window regulator mechanisms (A) ..... D 60
Dynamic characterization of automotive rubber (A) ..... F 78

AUTOMOTIVE ENGINEERING *(Continued)*
Fuel-economy gains from heated lean air-fuel mixtures in motorcar operation (A) ..... Ap 84
Growth of polypropylene through automotive applications (A) ..... F 78
On the lateral stability and control of the automobile as influenced by the dynamics of the steering system (A) ..... Mr 90
Properties, processing, and problems in manufacturing padding for automotive dash boards (A) ..... F 78
Some factors influencing motorcar fuel consumption in service (A) ..... Ap 84
Under way: A reliability program to check aging auto parts ..... D 82
Volkswagen wind tunnel (A) ..... F 67
AVERY, HAROLD T.
Obituary ..... S 121
AVEY, HARRY T.
Obituary ..... O 102
AVIATION
Record aviation activity ..... D 78
AVITZUR, B.
Experimental study of hydrostatic extrusion (A) ..... Ap 84
Flow characteristics through conical/converging dies (A) ..... Je 75
AWOJOBI, A. O.
Harmonic rocking of a rigid rectangular body on a semi-infinite elastic medium (A) ..... S 86
AYOUB, M. M.
Biomechanical considerations in industrial work (A) ..... Je 73

B

BABCOCK, WILLIAM W.
Obituary ..... My 179
BABEL, H. W.
Biaxial strengthening of textured titanium (A) ..... Je 72
BABINA, F.
A modified Gibbs experiment (A) ..... F 76
BACHELER, A. T.
Integrated circuits for machine controls (A) ..... Jl 67
BAER, CHARLES J.
Goals of engineering education (C) ..... Ap 94
BAGBY, FREDERICK L.
Named manager of the department of mechanical engineering, Columbus Laboratories, Battelle Memorial Institute O 98
BAGBY, R. A.
Factors influencing the economic design and application of powder metallurgy parts (A) ..... Ag 59
BAILEY, EUGENE C.
Goals of engineering education (D) ..... My 155
BAILEY, T. E.
Adaptation of the RL10 engine for fluorine-hydrogen application (A) ..... Ag 61
BAKER, A. J. S.
Development and testing of wear-reducing marine diesel cylinder lubricants (A) Je 64
BAKER, D. H.
Automation concepts for tank truck loading facilities (A) ..... N 81
BAKER, EDWARD C.
Thermal design of electronic packages (A) ..... Ja 77
BAKER, E. H.
Response of cylindrical sandwich shells to moving loads (A) ..... D 69
BAKER, P. H.
Progress in railway mechanical engineering (A) ..... F 74
BAKER, R. F.
Hardware implications of new surface transportation: Highways — programmed systems (A) ..... Jl 67
BAKER, W. E.
Elastic response of thin spherical shells to axisymmetric blast loading (A) ..... N 85
BALANCING
Balancing of high-speed machinery (A) O 63
BALDRIDGE, BRUCE H.
Appointed manager of Systems Application Planning — Foxboro Company D 100
BALL, C. WINTHROP
Obituary ..... My 179
BALLOONS
Alcoa Student Design Award ..... S 98
BALOUGH, CHARLES
Obituary ..... Ap 121
BAMMERT, K.
Design of combustion chambers of heaters for transmission of the primary heat of closed-cycle gas turbines (A) My 148
BAND, E. G. U.
Design for water transportation equipment (A) ..... Jl 69
BANKS, W. C.
Stability of modified type 316 austenitic steels for valve applications at elevated temperatures (A) ..... Ap 88
BANTA, H. M.
Development and performance of the USS improved Buttress-thread oil-well tubing joint (A) ..... N 79
BANTHIN, JOHN FREDERICK
Elected Fellow of ASME ..... My 175
BARAKAT, H. Z.
Transient laminar free-convection heat and mass transfer in two-dimensional closed containers containing distributed heat source (A) ..... Mr 81
BARANSKI, L. S.
Growth of polypropylene through automotive applications (A) ..... F 78
BARANSON, JACK
Engineering for underdeveloped countries Mr 32
BARKER, JOSEPH W.
Had an award established in his name D 98
BARLAS, JUNAID
Engineer (C) ..... F 82
Goals of engineering education (C) ..... Ap 92
BARLOW, E. J.
Derivation of governing equations for self-acting foil bearings (A) ..... D 64
Self-acting foil bearings of infinite width (A) ..... D 64
BARNARD, JOHN A.
Obituary ..... O 102
BARNET, F. R.
Composite materials — part three: fiber-reinforced materials ..... F 38
BARR, JAMES W.
Joined the Bigelow Company as a sales-project engineer ..... Ag 86
BARRANGON, MAURICE (editor)
Pumped storage ..... Ag 14
BARRETT, R. E.
Formation of SO_3 in a noncatalytic combustor (A) ..... Mr 89
BARS
Torsional instability of cantilevered bars subjected to nonconservative loading (A) ..... Ap 83
Waves in bars of mechanically unstable materials (A) ..... My 152
BASSETT, ROYAL M.
Obituary ..... Ap 121
BATESON, N. E.
Progress in railway mechanical engineering ..... N 42
Progress in railway mechanical engineering (A) ..... F 74
BATTERIES. *See* ENERGY STORAGE
BAUER, C. H.
A comparison of the performance of self-lube and conventionally lubricated reciprocating air compressors (A) ..... Je 64
BAUMAN, R. C.
Nuclear power: competitive (C) ..... S 88
BAUMANN, N. P.
Vibration reduction techniques for high-speed rotating equipment (A) ..... Ja 71
BAUMEISTER, THEODORE
Accepted appointment as adjunct professor of mechanical engineering at the University of South Carolina ..... Ap 117
BAXTER, M. L.
Adjustment characteristics of spiral bevel and hypoid gears (A) ..... D 60
BAYER, R. G.
Applying the wear model to design problems (A) ..... S 82
An engineering model for wear (A) ..... S 82
Special considerations relating to the engineering model for wear (A) ..... Ap 83
BEALE, L. A.
An investigation of the stresses in welded tubular connections (A) ..... Ap 88
BEAMS
Bounds on the maximum thermoelastic stress and deflection in a beam plate (A) ..... D 67
Effect of lateral hydrostatic pressure on the instability of elastic solids, particularly beams and plates (A) ..... S 86
Shear coefficient in Timoshenko's beam theory (A) ..... S 85
Theory of vibratory bending for elastic and viscoelastic layered finite-length beams (A) ..... Ap 82
BEARINGS. *See also* LUBRICATION
Analysis and design of spiral-groove bearings (A) ..... Ag 63
On the analytical and experimental investigation of a hydrostatic, axisymmetric compliant-surface thrust bearing (A) ..... D 64
BEARINGS *(Continued)*
Application of gas bearings to closed-system Brayton-cycle turbomachinery — recent accomplishments and potential problem areas (A) ..... My 147
Applications of linear and rotary motion hydrostatic bearings (A) ..... Ag 61
On asymptotic analysis of gaseous squeeze film bearings (A) ..... O 66
Complex variable analysis for stepped thrust bearings (A) ..... D 64
Correlation of the pitting fatigue life of bearings with rolling contact rig data (A) ..... Mr 79
Derivation of governing equations for self-acting foil bearings (A) ..... D 64
Design and analysis of self-acting gas-lubricated slider bearings for noncontact magnetic recording (A) ..... F 73
Design for squeeze film bearing ..... O 57
Determination of stresses in rolling-contact elements (A) ..... D 65
Effect of elastic distortion on journal bearing performance (A) ..... O 66
Effects of prior metallurgically induced compressive residual stress on the metallurgical and endurance properties of overload-tested ball bearings (A) ..... Mr 78
Effects of roughness in hydromagnetically lubricated bearings (A) ..... Ag 64
Elastohydrostatic lubrication of circular plate thrust bearings (A) ..... Ag 65
Electron microscopy of stress-induced structural alterations near inclusions in bearing steels (A) ..... Mr 79
Experimental investigation of rolling contact (A) ..... Ap 81
An experimental study of the stability of an externally pressurized gas-lubricated thrust bearing (A) ..... My 152
Experiments on an ultrastable gas journal bearing (A) ..... D 66
Externally pressurized bearings as servomechanisms. 1—The simple thrust bearing (A) ..... O 66
Friction and adhesion of copper in vacuum (A) ..... O 66
Gas turbine ball bearing design (A) ..... Ag 63
An ion-drag thrust bearing (A) ..... Mr 84
Magnetohydrodynamic effects in composite bearings (A) ..... O 67
The MHD hydrostatic thrust bearing — theory and experiments (A) ..... Ag 64
Microstructural alterations of rolling — bearing steel undergoing cyclic stressing (A) ..... Mr 78
Modern gas-bearings turbomachinery
Part 1: state-of-the-art ..... Ja 24
Part 2: research and application ..... F 42
Noise in rolling-element bearings (A) F 72
Numerical analysis of the gas-lubricated spiral-groove thrust bearing-compressor (A) ..... Ag 63
On the stability methods of externally pressurized thrust gas bearings (A) D 66
Prediction of hydrostatic gas journal bearing performance (A) ..... Ag 65
Preliminary experiment with foil bearings (A) ..... Mr 84
Propagation of contact fatigue from surface and subsurface origins (A) ..... Mr 79
The Rayleigh step bearing applied to a gas-lubricated journal of finite length (A) ..... Mr 84
Reversing normal strains produced by rolling contact load (A) ..... Ag 64
Selection of bearings for translating round shafts (A) ..... S 82
Self-acting foil bearings of infinite width (A) ..... D 64
Special bearings (A) ..... Ja 57
Spherical squeeze-film hybrid bearing with small steady-state radial displacement (A) ..... Ag 64
Squeeze - film load - carrying capacity (short bearing approximation) (A) ..... F 73
Stability of a squeeze-film journal bearing (A) ..... F 66
Steady-state and dynamic characteristics of a full circular bearing and a partial arc bearing in the laminar and turbulent flow regimes (A) ..... Ag 63
The steady-state and dynamic characteristics of the tilting-pad journal bearing in laminar and turbulent flow regimes (A) ..... D 64
Stiffness effects on the infinitely wide foil bearing (A) ..... Ag 64
A study of erosion between two parallel surfaces oscillating at close proximity in liquids (A) ..... D 64

(A) denotes Abstract; (AC) Author's Closure; (BR) Book Review; (C) Correspondence; (D) Discussion; (Ed) Editorial

BEARINGS (*Continued*)
A theory for turbulent fluid films and its application to bearings (A) ....D 64
Thermal distortion of spiral-grooved gas-lubricated thrust bearing due to self-heating (A) ....D 64
Transient dynamics of a tilting pad gas bearing system (A) ....Ag 64
BEASLEY, M. M.
Mechanical development in tufting machinery (A) ....Je 76
BECK, E. J.
Heat transfer research in the deep ocean (A) ....Ap 80
BECK, J. V.
Stability of a squeeze-film journal bearing (A) ....D 66
BECK, W. H.
Thermal-cycle analysis by variables — a universal approach for digital computers (A) ....F 70
BECKJORD, WALTER C.
Obituary ....N 119
BECKMANN, A. T.
The plate heat exchanger (A) ....N 83
BEEBE-CENTER, JOHN G., JR.
Obituary ....O 102
BEEGHLY, B.
Propane as an industrial engine fuel (A) Je 65
BEEKLEY, WALDREN C.
Received 50-year ASME membership pin ....S 114
BEEKMAN, MYRON C.
Named assistant-chief of the newly reorganized generation division of the general engineering department, Detroit Edison Co. ....O 100
BEHR, ROBERT K.
Obituary ....Mr 121
BEICHLEY, F. WENDELL
Elected Fellow of ASME ....Ag 88
BEIER, KURT A.
Elected president of Schwitzer Corporation ....F 104
BEITLER, SAMUEL R.
The businessman's guide to Europe (BR) Ja 83
BELL, ANDREW L.
Obituary ....My 179
BELL, J. C.
Determination of stresses in rolling-contact elements (A) ....D 65
BELL, WILLIAM C.
Obituary ....Je 111
BELLOWS JOINTS. *See* JOINTS, BELLOWS
BELTS. *See* DRIVES, POWER
BENDING
Large deflection in elastoplastic bending of a simply supported circular plate under a uniform load (A) ....D 68
Theory of vibratory bending for elastic and viscoelastic layered finite-length beams (A) ....Ap 82
BENEDICT, R. P.
Flow losses in abrupt enlargements and contractions (A) ....F 70
Most probable discharge coefficients for ASME flow nozzles (A) ....Mr 91
On the determination and combination of loss coefficients for compressible fluid flows (A) ....F 70
BENJAMIN, MAX WILLIAM
Elected Fellow of ASME ....My 175
BENNETT, F. W.
Impact strength of austenitic stainless-steel welds at −320F — effect of composition, ferrite content, and heat treatment (A) ....Ap 84
BENNINGHOVEN, RHEIN
Obituary ....D 103
BENTSON, HAROLD J.
Elected Fellow of ASME ....Ag 88
BEREIS, K. A.
Operator training via simulation — large utility pioneers new approach to instruct power-plant personnel (A) ....Ja 71
BERGLES, A. E.
Effects of upstream compressibility on subcooled critical heat flux (A) ....Ja 81
BERGMAN, D. J.
High-temperature heat exchanger problems (A) ....N 80
BERMAN, I.
Design and analysis of commercial pressure vessels to 500,000 psi (A) ....Je 76
BERMAN, P. A.
Advanced gas turbines for combined-cycle power plants (A) ....My 151
BERMEL, T. W.
Development of a pure fluid NOR gate and a NOR logic binary-to-decimal converter (A) ....Ap 90
BERNETT, T.
Irregular motion of rotation best produced by elliptical gears (A) ....D 62
BETSER, A. A.
Some effects of temperature and heat-treatment on the strength of sintered WC-Co alloys (A) ....Ag 60
BETTIS, E. S.
Dragon reactor (C) ....O 71
BETZ, L. DREW
Announced his retirement from Beta Laboratories, Inc. ....Ap 116
BILLET, A. B.
Supersonic transport aircraft high-performance fluid power systems and components (A) ....Ag 60
BINFORD, R. C.
Slider-crack charts for offset; crankshafts (A) ....D 62
BINS
Vibratory hoppers ....My 107
BIOT, MAURICE ANTHONY
Elected Fellow of ASME ....My 175
BIOTECHNOLOGY
Analysis and design of a streamlined heat valve prosthesis (A) ....Je 73
Application of a hybrid computer system to human factors research (A) ....Je 73
Biological telecommunications (A) ....Ag 58
Biomechanical considerations in industrial work (A) ....Je 73
Biomechanics of the arm-back aggregate under industrial working conditions (A) ....Ap 88
Biomedical engineering instrumentation (A) ....Ag 56
Bones, gages, and biomechanics (A) ....Jl 55
The breath of life (A) ....Ap 88
A common concern ....Mr 101
A descriptive model of lamellar bone anisotropy (A) ....Je 74
Design of heart valves ....Jl 22
Design of prosthetic heart valves (A) Ap 89
Design problems in the artificial kidney (A) ....Ag 58
Dynamic response of biological materials (A) ....Ap 89
EMG control of external power (A) Ap 89
Fluid pressure gradients caused by impact to the human skull (A) ....Je 73
Heat-loss analysis for deep-diving oceanauts (A) ....Ja 77
Human engineering and acoustical fatigue (A) ....S 82
Human engineering guide to equipment design: progress on a revision and expansion (A) ....Je 74
Human Factors Conference, 1966 ....Je 94
Human factors in vehicle checkout (A) Je 74
Machine for deep brain hypothermia (A) D 55
Manual tracking capabilities in a shipboard environment (A) ....Je 73
Oxygen chambers (A) ....Ja 62
Requirements for compact shipboard interior communications (IC) (A) ....Je 74
Selection of human factors tests in large-scale operational testing of systems (A) ....Je 73
Strength of skin and its measurement (A) ....Ap 88
Structural analysis of an arteriole by the direct stiffness method (A) ....Je 73
BIRKEBAK, R. C.
Thermal modeling applied to animal systems (A) ....Mr 80
BIRMINGHAM, MICHAEL A.
Obituary ....My 179
BIRON, A.
Plastic analysis of rib-reinforced cylindrical shells (A) ....D 67
BISHOP, A. A.
Forced-convection heat transfer to superheated steam at high-pressure and high Prandtl numbers (A) ....Ja 76
Transient DNB test on CVTR fuel assembly (A) ....Mr 88
BISSHOPP, FREDERIC
Similitude and approximation theory (BR) Mr 93
BJERKLIE, J. W.
Comparison of dynamic and static power conversion for undersea missions (A) My 149
BLACK, ARCHIBALD
Same old problem: metric system (C) Mr 92
BLACK, EDGAR N.
Obituary ....O 102
BLAKE, T. R.
Supersonic cascade tunnel used to evaluate compressor blade performance (A) Je 68
BLAST LOADING
Elastic response of thin spherical shells to axisymmetric blast loading (A) ....N 85
BLECH, J. J.
Computer analysis of flexural vibrations of a rotating disk with an arbitrary profile (A) ....Ja 70
BLEICH, H. H.
Longitudinal impact of a semi-infinite, cylindrical, viscoelastic shell (A) ....Ap 82
Plane waves in an elastic half-space due to combined surface pressure and shear (A) ....My 152
BLODGETT, R. E.
Stability conditions for a class of distributed-parameter systems (A) ....Mr 84
BLOEMER, J. W.
Factors affecting solar-still performance (A) ....Ap 90
BLOM, CARL J.
Elected Fellow of ASME ....N 117
BLOOMBERG, DAVID J.
Obituary ....My 179
BLOWERS
Graphical methods for determining operating points of a fan-motor assembly (A) ....Ja 74
BLUM, HAROLD A.
Transient phenomena in heat transfer across surfaces in contact (A) ....Ja 81
BOATS. *See* SHIPS
BODEK, E. J.
Wrapping flat-type resistors (A) ....Ap 87
BODNER, S. R.
An analysis of longitudinal elastic-plastic pulse propagation (A) ....Je 74
An experimental investigation of elastic-plastic pulse propagation in aluminum rods (A) ....D 66
BODZIN, J. J.
Carbon and carbon-moly steam pipe after long-time service (A) ....Ap 86
BOEHM, FREDERICK
Elected senior vice-president in charge of organization planning, Shutte and Koerting Company ....D 100
BOELTER, L. M. K.
Obituary ....O 102
BOGDAN, R. C.
General systematization and unified calculation of five and four-bar plane basic mechanisms (A) ....O 64
BOGGS, J. H.
Critical lengths in subsonic and supersonic gas-particle flow in a vertical constant area tube (A) ....Jl 74
BOILER AND PRESSURE VESSEL CODE OF ASME
Interpretations ....Ja 85; My 161; Ag 68; S 93
An introduction to the ASME unfired pressure vessel code (A) ....Ap 85
Mexico to translate Boiler Code ....Ag 78
New and revised cases ....F 86
Proposed revisions and addenda ....Ja 86; F 87; My 162; Jl 82; Ag 68; S 93
BOILERS. *See also* CORROSION AND DEPOSITS
Boxcar boilers (A) ....Jl 54
Carbon-steel, feedwater-heater, tube-to-tube sheet joints (A) ....Ja 72
Gas turbines and waste heat boilers (A) My 151
Operating experience with the world's largest package boiler (A) ....Ja 71
Starting and operating once-through steam generators (A) ....Ja 72
Steam generator (A) ....Ap 76
Steam generators for combined steam and gas turbine plants (A) ....My 151
Supercharged steam generator: some aspects of design and pressure level selection (A) ....My 150
BOILING
Empirical correlation of factors influencing departure from nucleate boiling in steam-water mixtures flowing in vertical round tables (A) ....Mr 81
Film boiling of saturated nitrogen flowing in a vertical tube (A) ....Ja 79
A new method of burnout detection (A) Ja 75
BOLEY, B. A.
Bounds on the maximum thermoelastic stress and deflection in a beam plate (A) ....D 67
BOLIN, MARCEL E.
Obituary ....My 179
BOLLIGER, H. R.
15 years of gas turbine operation in Venezuela's industry and utilities (A) ....My 147
BOLTED JOINTS. *See* JOINTS
BOLTS
Low-cycle fatigue of large-diameter bolts (A) ....O 68
BONAN, E.
Systems engineering ....O 41
Systems engineering — myth or magic (A) ....F 77

BOND, HAROLD DEE
Obituary ..... S 121
BONDE, ELEANOR
Named chief engineer of Hurletron Inc., Wheaton Engineering Division ..... Ap 119
BONDING
Anaerobic bonding (A) ..... Ag 50
Curing adhesives in production runs (A) Ag 60
High-temperature testing of reentry bonds (A) ..... Ag 60
Surface treatment of joints for structural adhesive bonding (A) ..... Ag 56
Testing methods to evaluate adhesive performance (A) ..... Ag 62
BOOK REVIEWS
The businessman's guide to Europe ..... Ja 83
Engineer-ingenious contriver of the instruments of civilization ..... S 90
Engineering eponyms ..... N 90
Heat exchanger design ..... F 83
Orbital dynamics of space vehicles ..... Jl 81
Similitude and approximation theory ..... Mr 93
Successful engineering management ..... O 72
Thermal conductivity of gases and liquids Ja 83
Thermofluid mechanics ..... Je 84
BOOKS RECEIVED IN LIBRARY ..... Ja 84; F 84; Mr 93; Ap 96; My 160; Je 84; Jl 81; Ag 67; S 90; O 72; N 90; D 71
BOOTH, L. A.
Projects for nuclear reactor-MHD commercial power production (A) ..... My 149
BOOY, M. L.
Influence of oblique channel ends on screw-pump performance (A) ..... F 81
A noniterative numerical solution of Poisson's and Laplace's equations with applications to slow viscous flow (A) Jl 74
BOPPEL, HENRY L.
Named executive vice-president and general manager of The Sheffield Corporation, a Bendix Corporation subsidiary ..... D 98
BORGAN, T. R.
Energetics 6: magnetohydrodynamic power ..... N 38
BORGESE, S. F.
Microstructural alterations of rolling — bearing steel undergoing cyclic stressing (A) ..... Mr 78
BOUILLON, LINCOLN
Obituary ..... D 103
BOUNDARY LAYERS
Analytic approximations of boundary-layer problems (A) ..... S 86
Artificially thickened turbulent boundary layers by means of wires (A) ..... Ja 73
Effects of free-stream turbulence and pressure gradient on flat-plate boundary-layer velocity profiles and on heat transfer (A) ..... N 87
An investigation of the influence of the boundary layers on the performance of centrifugal-compressor impellers (A) ..... Ja 72
Laminar boundary layer on a rotating circular arc blade (A) ..... F 80
The law of the wake and plane of symmetry flows in three-dimensional turbulent boundary layers (A) ..... Ja 72
Quasi-linearization solution of the two-component boundary layer on an ablating wall (A) ..... Ja 79
Recent developments in calculation methods for turbulent boundary layers with pressure gradients and heat transfer (A) ..... S 86
BOWERS, N. K.
Gas turbines in the Royal Navy (A) ..... My 144
BOYCE, M. P.
A practical three-dimensional flow visualization approach to the complex flow characteristics in a centrifugal impeller (A) ..... Je 68
BOYER, VINCENT S.
Elected Fellow of ASME ..... S 118
BOZEMAN, H. C.
Joined Signal Oil and Gas Company ..... Ag 86
BRADBURY, GILBERT V.
Obituary ..... N 119
BRADFORD, L. R.
Controlling the process of work in a design engineering department (A) ..... S 82
BRADLEY, J. C.
Simplifying your engineering numbering system (A) ..... Jl 70
BRANCART, CLAUDE
A multistage slotted-blade axial flow pump (A) ..... F 80
BRANDES, W. R.
Where does the diesel fit in the Navy's future? (A) ..... Je 66
BRATSPIES, J.
Structural changes in cemented carbides due to plastic deformation at elevated temperatures (A) ..... Ag 62
BRAUN, H. E.
Study of cable-wrapped pressure vessel for nuclear reactors (A) ..... Mr 88
BRENTON, WALTER
Obituary ..... Jl 112
BREWER, ARTHUR
Obituary ..... Mr 121
BREWER, G. E. F.
Electrocoating process: corrosion protection of highly profiled designs (A) Ag 62
BREWER, WILLIAM
Thermal effects in dimensional metrology ..... F 26
BRIDWELL, H. C.
Erosion of various materials by liquid-entrained abrasives (A) ..... Ap 88
BRIEFING THE RECORD ..... Ja 53; F 55; Mr 65; Ap 64; My 128; Je 49; Jl 49; Ag 41; S 65; O 49; N 62; D 44
BRIGHTON, D. K.
Effect of elastic distortion on journal bearing performance (A) ..... O 66
BRIGHTON, J. A.
Artificially thickened turbulent boundary layers by means of wires (A) ..... Ja 73
BRINSON, L.
High-performance gas-burning engines (A) ..... Je 67
Propane as an industrial engine fuel (A) Je 65
BROCKETT, W. A.
U. S. Navy's marine gas turbines (A) ..... My 143
BROOKS, FREDERICK A.
Elected Fellow of ASME ..... Je 108
BROTHERS, A. J.
Fatigue crack propagation in low-alloy, heat-treated steels (A) ..... Je 72
Fracture toughness determinations of A-302B and Ni-Mo-V steels with various size questions (A) ..... Je 72
BROWN, C. E.
Gilled systems for hydrospace (A) ..... Ap 81
Gilled systems for hydrospace ..... Ag 18
BROWN, FORBES T.
Licensing thing (C) ..... F 82
BROWN, K. E.
Prediction of pressure loss during two-phase horizontal flow in two-inch pipe (A) ..... O 67
BROWN, P. I.
Field performance of ashless detergent gas engine oils (A) ..... Je 66
BROWN, R. D.
Friction and adhesion of copper in vacuum (A) ..... O 66
BROWN, R. J.
SCS ignition — silicon controlled for peak ignition performance and maximum reliability (A) ..... Je 67
Solid-state ignition ..... O 30
BROWN, T. D.
Available mechanisms for deposition from a combustion gas stream (A) ..... Mr 89
Deposition of oil ash constituents from high-temperature gas streams (A) ..... Mr 89
Vanadium pentoxide deposition from combustion gases (A) ..... Mr 89
BROWN, W. R.
Development of a pure fluid NOR gate and a NOR logic binary-to-decimal converter (A) ..... Ap 90
BROWNE, WILLIAM H.
Named assistant director, technical services, at Columbus Laboratories, Battelle Memorial Institute ..... O 98
BRUNE, CARLETON E.
Obituary ..... Je 111
BRYAN, JAMES B.
Thermal effects in dimensional metrology ..... F 26
BRYANT, R. A. A.
A theory for froth flow in horizontal pipes (A) ..... Ja 72
BUBBLES
Influence of free air bubbles on cavity volumes and the associated noise signatures (A) ..... Ja 73
BUCHER, PAUL
Elected Fellow of ASME ..... Ap 119
BUCKLING
Inelastic buckling of rib-cored sandwich cylinders under external hydrostatic pressure (A) ..... S 84
BUGEL, T. E.
Modulus of elasticity for design with polysulfone thermoplastic (A) ..... F 79
BUHAYAR, E. S.
Computerized cam design and plate cam manufacture (A) ..... N 84
BUITRAGO, EUGENIO, JR.
Obituary ..... My 179
BURDICK, W. E.
Development and test of the General 70-E truck for BARTD (A) ..... Jl 72
BURKS, GEORGE B.
Elected 1966 president of the Society of Automotive Engineers ..... Ap 119
BURNETT, EARLE S.
Obituary ..... My 179
BURNETT, J. R.
System requirements analysis (A) ..... F 77
BURNOUT
Burnout in steam-water flows with axially nonuniform heat flux (A) ..... Ja 78
A new method of burnout detection (A) Ja 75
BURNS, EDWARD D., JR.
Joined National Forge Company as marketing manager of its Pressure Systems Division ..... O 98
BURNS, R. H.
Structural permutations of flexible link mechanisms (A) ..... N 84
BURNSIDE, G. L.
Electrocoating process: corrosion protection of highly profiled designs (A) ..... Ag 62
BURRILL, HAROLD G.
Obituary ..... D 103
BURTON, R. A.
An experimental study of annular flows with applications in turbulent film lubrication (A) ..... D 65
Friction and adhesion of copper in vacuum (A) ..... O 66
Lubricant effects on fatigue in a stationary concentrated contact under vibratory loading (A) ..... Mr 79
BURTON, RAYMOND C.
Obituary ..... Ja 119
BUSSELL, W. H.
An analytical method of synthesizing mechanisms based on roulette theory (A) ..... O 65
BUTLER, E. A.
An axial-flow reserving gas turbine for marine propulsion (A) ..... My 144
BUTLER, R. I.
Methods of latching impacting bodies (A) ..... D 60
BUTLER, R. T., JR.
Promoted to assistant superintendent — shops and maintenance division, Tennessee Eastman Company ..... D 100
BUTLER, T. M.
Elected vice-president — engineering of the Burroughs Corporation ..... Ap 119
BUTTREY, K. E.
Snap reactor transient test machine (A) My 153
BYARS, E. F.
Dynamic response of biological materials (A) ..... Ap 89

C

CABLES
Static bending stresses in catenaries and drill strings (A) ..... O 67
CALHOUN, JOEL N.
Obituary ..... F 107
CALLADINE, C. R.
Stress concentration in nonlinear creep of a simple shell (A) ..... S 84
CAMBEL, ALI BULENT
Becomes director of the Research and Engineering Support Division, of the Institute of Defense Analyses ..... S 116
CAMERAS
A streak camera for dynamic laboratory measurements (A) ..... D 62
CAMMANN, OSWALD
Obituary ..... D 103
CAMPBELL, DOUGLAS B.
The wage controversy (C) ..... Ag 65
CAMPBELL, R. D.
Snap reactor transient test machine (A) My 153
CAMPBELL, R. M.
More on nuclear power (C) ..... O 71
CAMPBELL, THOMAS D.
Obituary ..... Je 111
CAMS
Computerized cam design and plate cam manufacture (A) ..... N 84
Motion analysis of flexible cam-follower systems (A) ..... D 63
Theory of catenoidal-pulse motion and its application to high-speed cams (A) D 63
CANALIZO, C. R.
Fluid and pressure-operated concentric gas lift valves with automatic control means (A) ..... N 80

(A) denotes Abstract; (AC) Author's Closure; (BR) Book Review; (C) Correspondence; (D) Discussion; (Ed) Editorial

CANAN, WILLIAM D.
Obituary ..... Je 111
CANDELL, L. M.
Radiative interchange factors by Monte Carlo method (A) ..... Mr 81
CANS
Napoleon and the modern can (A) ..... Jl 50
CARAMEROS, A. H.
100,000 hours with gas turbines (A) ..... My 146
CARKE, CLAUDE L.
Obituary ..... Ap 121
CARLSON, J. J.
Effects of wall shape on flow regimes and performance in straight-two-dimensional diffusers (A) ..... Jl 75
CARLUCCI N. A.
Flow losses in abrupt enlargements and contractions (A) ..... F 70
CARMAN, C. M.
Low cycle fatigue crack propagation characteristics of high-strength steels (A) ..... Je 72
CARMAN, THORNTON S.
Obituary ..... D 103
CARPENTER, CHARLES L.
Obituary ..... D 103
CARPENTER, R. B., JR.
Reliability and maintainability: part 5 — space: manned interplanetary travel ..... Je 44
CARPENTER, R. C.
Obituary ..... N 119
CARPENTIERI, ERCOLE A.
Made director-president of Timken do Brasil, S/A. ..... Ap 116
CARPER, H. C.
An experimental study of annular flows with applications in turbulent film lubrication (A) ..... D 65
CARRIER, G. F.
An approximate procedure for the solution of a class of transient wave diffraction problems (A) ..... Ap 82
CARTER, ANTHONY F.
Computed aspect ratio-curvature effects upon the performance of a high-pressure-ratio single-stage compressor (A) ..... Ja 68
CARTWRIGHT, J. S.
Mechanization of bobbin-wound coils (A) ..... Ap 87
CARTWRIGHT, R. S.
Design of heart valves ..... Jl 22
Design of prosthetic heart valves (A) ..... Ap 89
CASE, L. F.
Supersonic cascade tunnel used to evaluate compressor blade performance (A) ..... Ja 68
CASE, R. C.
Marine gas turbine growth in the U.S. Coast Guard (A) ..... My 142
CASH, CARSON D.
Joined the field staff of the Farrel Corporation ..... Je 108
CASTELLI, V.
Improved method for numerical solutions of the general incompressible fluid film lubrication problem (A) ..... S 87
On the analytical and experimental investigation of a hydrostatic, axisymmetric compliant-surface thrust bearing (A) ..... D 64
Transient dynamics of a tilting pad gas bearing system (A) ..... Ag 64
CASTERLINE, J. E.
Critical heat flow in long tubes at 1000 psi with and without swirl promoters (A) ..... Ja 78
Transient DNB test on CVTR fuel assembly (A) ..... Mr 88
CASTING. *See* METAL CASTING
CAUGHEY, T. K.
On the stability of the impact damper (A) ..... S 85
Parametric excitation of a nonlinear system (A) ..... Ap 82
CAVITATION
Cavitation bubble collapse observations in a venturi (A) ..... F 80
Cavitation damage studies with rotating disk in water (A) ..... Jl 75
Effect of cavitation on the discharge coefficient of standard flow nozzles (A) ..... Jl 75
Effect of exposure time on cavitation damage (A) ..... F 79
High-frequency fatigue of metals and their cavitation-damage resistance (A) ..... Ap 80
A new approach to the reduction of pump cavitation: the hubless inducer (A) ..... Jl 73
Quadrant-edge orifice performance under cavitating conditions (A) ..... Jl 75
White noise (A) ..... F 59
CELLS. *See* BATTERIES; HYDROGEN-REMOVAL CELLS
CEMENTED CARBIDES
Compressive properties of cemented carbides (A) ..... Jl 70
Structural changes in cemented carbides due to plastic deformation at elevated temperatures (A) ..... Ag 62
Tensile testing of cemented carbides (A) ..... Ag 62
CENTRIFUGES
Centrifuge design concepts — vertical and horizontal axis configurations (A) ..... Jl 66
CHACE, M. A.
Analysis of the time-dependence of multi-freedom mechanical systems in relative coordinates (A) ..... O 63
CHALUPNIK, J. D.
A streak camera for dynamic laboratory measurements (A) ..... D 62
CHAMBADAL, P.
Availability balance of gas turbines (A) ..... My 146
CHAMBERLAIN, R. G.
Lasers for measurement (A) ..... Ag 62
CHANAUD, R. C.
A digital flowmeter without moving parts (A) ..... Mr 90
CHANDRAMANI, K. L.
Some first-passage problems in random vibration (A) ..... S 86
CHAPMAN, JAMES R.
Elected vice-president of Stone & Webster Engineering Corporation ..... D 98
CHARLTON, EDWARD J.
Moves to manager of production engineering and planning, Lukens Steel Corporation ..... S 116
CHATO, J. C.
Heat transfer effects on the developing laminar flow inside vertical tubes (A) ..... Mr 80
CHAVE, C. T.
Containment for nuclear reactors (AC) ..... Je 83
Goals of engineering education (D) ..... My 157
CHEANEY, E. S.
Technical forecasting as a basis for planning (A) ..... Jl 68
CHEATHAM, J. B., JR.
A method for controlling hole inclination and direction (A) ..... N 79
CHEMICAL INDUSTRIES
Exposition of Chemical Industries, 1965 (A) ..... Ja 90
CHEN, C. C.
Potential flow solution of propeller-driven jets used for submarine depth control (A) ..... Jl 74
CHEN, P. S.
Rolling of a cylinder on an elastic film (A) ..... D 60
CHEN, W. T.
On some problems in transversely isotropic elastic materials (A) ..... Je 74
CHENG, D. H.
Axial thermal gradient stresses in thin cylinders of finite length (A) ..... Ap 85
CHI, J. W. H.
Slug flow and film boiling of hydrogen (A) ..... Ja 78
CHIANG, D. C.
Effects of anisotropy and work-hardening characteristics on the stress and strain distribution in deep drawing (A) ..... Je 75
CHIANG, T.
Spherical squeeze-film hybrid bearing with small steady-state radial displacement (A) ..... Ag 64
CHILES, ROBERT L.
More on pipes (C) ..... D 70
CHIMNEYS
Insulated steel chimneys avoid corrosion and smut emission (A) ..... Mr 87
CHIN, Y. E.
Recent developments in organic coatings for prefinishing metal (A) ..... Ag 60
CHINA
Engineering manpower in Communist China ..... Jl 84
CHITKARA, N. R.
Some experimental results concerning spread in the rolling of lead (A) ..... Ap 86
CHI-YEH, H.
Balancing of high-speed machinery (A) ..... O 63
CHOU, P. C.
A unified approach to cylindrical and spherical elastic waves by method of characteristics (A) ..... Ja 152
CHRISTMAN, JACK M.
Obituary ..... My 179
CHRISTY, WILLIAM G.
Obituary ..... Mr 121
CHUNG, JACKSON
Flexible couplings ..... D 18
CHURCH, A. H.
Elected Fellow of ASME ..... Ja 117
CHURCHILL, STUART W.
Elected 1966 president of AIChE ..... Ap 119
Goals of engineering education: 2 — dissenting opinions ..... Ja 41
CIESLIK, B. J.
Received recognition certificate from ASME Safety Division ..... F 105
CISLER, WALTER L.
Named vice-chairman of U. S. National Committee World Power Conference ..... S 116
CIUCAS, GEORGE W.
Obituary ..... My 179
CLARK, CLARENCE H.
Named general superintendent of production, Detroit Edison Co. ..... O 100
CLARK, F. GORDON
Obituary ..... Ap 121
CLARK, JOHN M., JR.
For industry: gas turbine vs reciprocating ..... N 58
Gas turbine engines versus reciprocating engines for industrial applications (A) ..... Je 67
CLARK, JOSEPH M.
Obituary ..... N 119
CLAUSER, H. R.
Elected a vice-president of Reinhold Publishing Corp. ..... Je 107
CLAY, NEIL
Awarded prize for technical paper at Colorado School of Mines ..... Ap 86
CLEMMER, A. B.
Selection of design of closed feedwater heaters (A) ..... F 70
CLEVER, WILLIAM R.
Obituary ..... Ap 121
CLIFTON, R. J.
An analysis of longitudinal elastic-plastic pulse propagation (A) ..... Je 74
An experimental investigation of elastic-plastic pulse propagation in aluminum rods (A) ..... D 66
CLINTON, W. C.
Applying the wear model to design problems (A) ..... S 82
An engineering model for wear (A) ..... S 82
Special considerations relating to the engineering model for wear (A) ..... S 83
CLOSS, W. J.
Five years' experience with aircraft gas turbines in industrial applications (A) ..... Je 69
CLUTCHES
Design and performance characteristics of over-running clutches in gas turbine drive applications (A) ..... Je 68
Electromagnetic clutch (A) ..... Ag 48
COAL
Search for low-sulfur coal (A) ..... N 85
COAL MINING
The joy pushbutton miner (A) ..... Jl 64
Pushbutton miner ..... D 26
COATES, N. H.
Bureau of Mines progress in developing open and closed-cycle coal-burning gas turbine power plants (A) ..... My 148
COBB, LELAND D., SR.
Honored for distinguished professional achievement and leadership in the community at Pratt Institute ..... S 114
COCHRAN, ALEXANDER R.
Promoted to senior vice-president of staff services, Celanese Corporation ..... O 98
CODES AND STANDARDS. *See also* ASME; AMERICAN STANDARD ASSOCIATION; BOILER AND PRESSURE VESSEL CODE OF ASME
Codes and standards for today's industry ..... Je 40
CODY, D. J.
High-head single-stage centrifugal pumps for hydrocarbon services (A) ..... N 79
COFFIN, GEORGE S.
Obituary ..... N 119
COHEN, LOUIS
Appointed secretary of The Institute of Physics and The Physical Society ..... S 116
COHEN, M. J.
Peripheral jets in proximity of the ground (A) ..... S 85
COHEN, R.
An analytical study of the dynamics of an elastic linkage (A) ..... F 72
COHN, ERNST M.
Energetics 1: fuel-cell systems ..... Je 22
COILS
Mechanization of bobbin-wound coils (A) ..... Ap 87
COLE, R. R.
Electrochemical machining — prediction and correlation of process variables (A) ..... Je 75
COLLEY, CLAY T.
Obituary ..... Mr 121

COLLINS, ORELL
Elected a vice-president of Nalco Chemical Company ..... Je 107

COLUMNS
Effects of longitudinal inertia upon the parametric response of elastic columns (A) ..... Ap 83

COLVIN, FRED H.
Obituary ..... Ja 119

COLWELL, GENE THOMAS
Appointed to the staff of the Oak Ridge National Laboratory ..... Je 107

COLYER, C. C.
Today's gas engine oils (A) ..... N 83

COMBUSTION
Increased in the maximum heat-release rate and apparent flame strength of opposed-jet diffusion flames under impressed electric fields (A) ..... Mr 86
Slag-coal interface phenomena (A) ..... Mr 87
Thermodynamic properties of combustion products (A) ..... Mr 86

COMMUNICATIONS EQUIPMENT
Requirements for compact shipboard interior communications (IC) equipment (A) ..... Je 74

COMPOSITE MATERIALS
Composite materials
part 1: particle materials ..... F 32
part 2: layered materials ..... F 35
part 3: fiber-reinforced materials ..... F 38
Effect of structural damping on the forced vibrations of cylindrical sandwich shells (A) ..... Ap 81
Inelastic buckling of rib-cored sandwich cylinders under external hydrostatic pressure (A) ..... S 84
On certain approximations in sandwich plate analysis (A) ..... S 86
Response of cylindrical sandwich shells to moving loads (A) ..... D 69
Stress distribution in bonded dissimilar materials containing circular or ring-shaped cavities (A) ..... Ap 81

COMPRESSORS. *See also* GAS TURBINES
Application consideration for shaft sealing systems of centrifugal compressors (A) ..... Ag 61
A comparison of the performance of self-lube and conventionally lubricated reciprocating air compressors (A) ..... Je 64
Grouting of compressors and heavy machinery with epoxy (A) ..... N 79
An investigation of the influence of the boundary layers on the performance of centrifugal-compressor impellers (A) ..... Ja 72
Mechanisms of noise generation in a compressor model (A) ..... My 151
Methods of predicting the effect of shear flows on the outlet angle in axial compressor cascades (A) ..... F 79
New oxygen compressor (A) ..... Mr 76
Numerical analysis of the gas-lubricated spiral-groove thrust bearing-compressor (A) ..... Ag 63
A procedure for calculating the stresses in a centrifugal impeller with cover disks (A) ..... F 81
Recent progress in aerodynamic design of axial-flow compressors in the U. S. (A) ..... Je 70
Results of a sophisticated approach to compressor operation in high-pressure diversified service (A) ..... Je 66
Some measurements of the flow pattern in a centrifugal compressor impeller (A) ..... Ja 70
Specifications of high-mass-flow intercooled air compressors for process applications (A) ..... F 80
Twist of air (A) ..... D 45
The use of computers in balancing offshore compressor units (A) ..... N 82

COMPUTERS. *See also* AUTOMATIC CONTROL
Application of a hybrid computer system to human factors research (A) ..... Je 73
Automatic translation of languages ..... My 112
Computer potpourri (A) ..... N 66
Cops, robbers, and computers (A) ..... Mr 73
FORTRAN to speak for computers — It will be the first approved language for computers ..... S 100
Gift horse (C) ..... F 83
Hues for memory (A) ..... S 66
Information processing for the small and medium-sized engineering department (A) ..... Ag 61
Memory is a drum (A) ..... D 52
Police seek aid from university computer ..... N 96
A portable digital computer for engine indicating and analysis (A) ..... Je 65
Talking to computers ..... F 95

COMPUTER SIMULATION
Operating dynamics and computer simulation ..... Ap 60

CONCORDIA, CHARLES
Goals of engineering education (C) ..... Je 81

CONDENSATE POLISHING. *See* POWER PLANTS, STEAM

CONDENSATION
Laminar film condensation in two-phase channel flow (A) ..... Ja 81

CONDENSERS. *See* HEAT-EXCHANGE EQUIPMENT

CONDUCTORS
Conductive plastics ..... O 46

CONES
The significance of the concentrated load in the limit analysis of conical shells (A) ..... Ap 82

CONGIU, A.
Operating and control characteristics of a large compound-cycle, two-shaft gas turbine (A) ..... Je 71

CONSTANTINESCU, V. N.
On the possibilities of magnetogasdynamic lubrication (A) ..... D 66

CONVEYORS. *See also* MATERIALS HANDLING
Calibration of continuous conveyor scales (A) ..... Jl 65

COOK, R. D.
On certain approximations in sandwich plate analysis (A) ..... S 86

COOK, R. G.
Some first-passage problems in random vibration (A) ..... S 86

COOK, WILLIS D.
Obituary ..... N 119

COOLING SYSTEMS
A general method to increase the heat of ablation and the performance of injection cooling (A) ..... Ja 78
Thermal design of electronic packages (A) ..... Ja 77

COONLEY, HOWARD
Obituary ..... My 179

COPPER
Friction and adhesion of copper in vacuum (A) ..... O 66
Helicopters air mining project (A) ..... My 163

COPPER-NICKEL ALLOYS
Relative susceptibility of copper-nickel alloys to intergranular cracking in various media and at varying stress levels (A) ..... Mr 85

COREY, DONALD H.
Retired as general superintendent of Detroit Edison's construction and maintenance department ..... F 105

CORIOLIS. *See* SPACE AND SPACE VEHICLES

CORL, WILEY F., JR.
Gift horse (C) ..... F 83

CORLETT, R. C.
Direct numerical simulation of thermal radiation in vacuum (A) ..... Ja 75

CORLL, J. A.
Pressure terminology (A) ..... Je 76

CORROSION AND DEPOSITS
Available mechanisms for deposition from a combustion gas stream (A) ..... Mr 89
Corrosion at the seal ..... N 48
Deposition of oil ash constituents from high-temperature gas streams (A) ..... Mr 89
Formation of SO_3 in a noncatalytic combustor (A) ..... Mr 89
A fresh look at the mechanism of corrosion in boilers (A) ..... Mr 91
Stress-corrosion susceptibility of high-strength steel, in relation to fracture toughness (A) ..... Je 72
Vanadium pentoxide deposition from combustion gases (A) ..... Mr 89

COSTELLO, FREDERICK A.
Analytical prediction of spacecraft radiator performance (A) ..... Ja 80

COTTI, E.
Recent experience in the large marine diesel-engine maintenance (A) ..... Je 66

COTTRELL, N. E.
Information retrieval systems and mechanical engineering data (A) ..... Ag 63

COUCHMAN, R. S.
Steam-turbine-driven auxiliary generators (A) ..... N 85

COUPLINGS
Flexible couplings ..... D 18
The variable curvature of a crown tooth (A) ..... My 128

COURTNEY, W. J.
A clean friction and wear measurement device (A) ..... D 62

COUTINHO, JOHN
Elected Fellow of New York Academy of Science ..... F 104
Reliability & maintainability: part 1 — the basic problem ..... F 22

COWPER, G. R.
Shear coefficient in Timoshenko's beam theory (A) ..... S 85

COX, JACK C.
Obituary ..... D 103

COX, ROBERT W.
Elected vice-president of ASME ..... N 115

CRACKING
Relative susceptibility of copper-nickel alloys to intergranular cracking in various media and at varying stress levels (A) ..... Mr 85

CRACK PROPAGATION
Fatigue crack propagation in low-alloy, heat-treated steels (A) ..... Je 72
Low cycle fatigue crack propagation characteristics of high-strength steels (A) ..... Je 72

CRACKS
An arc crack around a circular elastic inclusion (A) ..... S 84
Stresses in an infinite strip containing a semi-infinite crack (A) ..... S 84
Three-dimensional stress distribution around an elliptical crack under arbitrary loadings (A) ..... S 86

CRAMER, JOHN W.
Obituary ..... N 119

CRANDALL, S. H.
Some first-passage problems in random vibration (A) ..... S 86

CRANE, EDWARD V.
Obituary ..... Jl 112

CRAVEN, JOHN P.
Receives ASME award ..... S 114

CREASE, ROBERT P.
Has become a director of engineering — materials handling equipment, Eaton, Yale & Towne, Inc. ..... O 98

CREEP OF MATERIALS
Creep-rupture properties of 1.25 Cr-0.5 Mo steel after service at 1000 F (A) ..... Ap 85
Dimensionless parameter reliability analysis and application to mechanical creep (A) ..... Ap 85
Effect of creep exposure on the fracture toughness of two low-alloy steels (A) ..... Ap 84
Effects of prior creep exposure on 1400 F strength of Inco 713 nickel-base alloy (A) ..... Ap 86
Effect of temperature on cyclic creep (A) ..... Je 72
Relationship of prior creep exposure to strength of wrought Udimet 700 nickel-base alloy (A) ..... Ap 85
Stress concentration in nonlinear creep of a simple shell (A) ..... S 84

CREMERS, C. J.
Thermal modeling applied to animal systems (A) ..... Mr 80

CRIM, W. M., JR.
Compact AK process nuclear system (A) ..... My 147
Turbomachinery design analysis of a 500-kw closed-Brayton-cycle power system (A) ..... My 149

CROCKER, SABIN
Goals of engineering education (C) ..... Je 78

CROSSLEY, F. R. E.
Structural permutations of flexible link mechanisms (A) ..... N 84

CROW, MORRIS L.
Named a senior staff engineer in the technical division of the Humble Oil & Refining Company ..... D 100

CROWDER, J. U.
A comparison of turbulent lubrication theories and a solution of Constantinescu's equation for a finite-length bearing (A) ..... S 87

CROWLEY, M. S.
Refinery usage of refractories (A) ..... N 80

CROWLEY, R. W.
Where does the diesel fit in the Navy's future? (A) ..... Je 66

CRUVER, J. E.
Heat transfer research in the deep ocean (A) ..... Ap 80

CRYOGENICS
Boundaries of a superconductor (A) ..... Je 54
Hyperborean magnetics (A) ..... Mr 73
Potential of superconducting magnets in design engineering (A) ..... S 84
The role of cryogenics in the application of superconductive magnets (A) ..... Jl 68
Saddle magnet: a hurdle in MHD (A) ..... Ag 41
Tanks-within-tanks (A) ..... Jl 61

(A) denotes Abstract; (AC) Author's Closure; (BR) Book Review; (C) Correspondence; (D) Discussion; (Ed) Editorial

CULLEN, T. M.
Creep-rupture properties of 1.25 Cr-0.5 Mo steel after service at 1000 F (A) Ap 85

CURRAN, R. M.
A progress report on study of steam turbine erosion by solid particles (A) Ja 71

CURTIS, MYRON S.
Obituary O 102

CURWEN, P. W.
Application of gas bearings to closed-system Brayton-cycle turbomachinery — recent accomplishments and potential problem areas (A) My 147

CUSWORTH, W. F.
Gas turbine applications by Central Electricity Generating Board (A) Je 69

CYLINDERS. *See also* SHELLS
Axial thermal gradient stresses in thin cylinders of finite length (A) Ap 85
Inelastic buckling of rib-cored sandwich cylinders under external hydrostatic pressure (A) S 84
Stress-intensity factors for thermal stresses in thick hollow cylinders (A) Ap 85

CZAPAR, WILLIAM A.
Appointed general manager of Poly-Dyne Engineering Company D 100

D

DAHLUND, E. L.
Development of compact 1000-hp-per-cylinder engine (A) Je 66

DALE, L. C. L.
Gas turbine applications by Central Electricity Generating Board (A) Je 69

DALEAS, R. S.
Effects of upstream compressibility on subcooled critical heat flux (A) Ja 81

DAMPERS
On the stability of the impact damper (A) S 85

DAMPING. *See also* VIBRATION
An experimental study of the response of a small porous chamber to forced oscillation (A) F 79
A study of fluid squeeze-film damping (A) Mr 84

DANESI, W. P.
Effect of creep exposure on the fracture toughness of two low-alloy steels (A) Ap 84

DANIELS, CLARENCE W.
Obituary S 121

DANIELS, GUY L.
Obituary Je 111

DANIELS, R. L.
Design and performance characteristics of overrunning clutches in gas turbine drive applications (A) Je 68

DAPPRICH, A. E.
Experimental investigations on compound thin-walled pressure vessels (A) N 79
Theoretical analysis of a compound thin-walled cylindrical pressure vessel for materials with directional properties (A) N 79

DAS, S. P.
Slow steady flow of a viscous liquid in an annulus with uniform arbitrary injection and suction velocities along the walls (A) O 69

DATA PROCESSING
Data-processing vocabulary N 95
Fiber optics in data processing (A) Mr 67
Information processing for the small and medium-sized engineering department (A) Ag 61
Punch and parity (A) My 137

DAVEY, T. B.
Design of heart valves Jl 22
Design of prosthetic heart valves (A) Ap 89

DAVIDSON, P. M.
Thermal-cycle analysis by variables — a universal approach for digital computers (A) F 70

DAVIDSON, T. E.
Effect of strain rate on yielding in high-strength steels (A) Ap 85

DAVIS, C. M.
A progress report on study of steam turbine erosion by solid particles (A) Ja 71

DAVIS, E. A.
Elastic-plastic solutions for notched shafts in torsion (A) Je 74

DAVIS, OLIVER B.
Obituary F 107

DAVOL, FRANK H., JR.
Obituary N 119

DAWSON, WYATT W.
Appointed manager of Rex Chainbelt, Inc., Roller Chain Division plants Je 108

DAY, H. J.
The MHD hydrostatic thrust bearing — theory and experiments (A) Ag 64

DECARLO, J. A.
Search for low-sulfur coal (A) N 85

DECKER, OTTO
Becomes a laboratory manager in charge of friction, lubrication, and rotor dynamics research at The Franklin Institute S 116

DEDRICK, FLOYD F.
Elected vice-president of Stone & Webster Corporation D 98

DEETER, RONALD C.
Promoted to sales engineer, Salem Tool Company O 98

DEGA, ROBERT L.
Corrosion at the seal N 48
Selecting materials to cope with corrosive properties of seal applications (A) Ag 62

DEHART, R. C.
Evaluation of high-strength materials for use in severe environments (A) N 82

DELAY, L. J.
Testing methods to evaluate adhesive performance (A) Ag 62

DELOLLIS, N. J.
High-temperature testing of reentry bonds (A) Ag 60

DE NEUFVILLE, ALBERT
Retired from faculty of Lehigh University Ag 86

DEPOSITS. *See* CORROSION AND DEPOSITS

DE RIENZO, PAUL P.
Promoted to chief engineer of the Nuclear, Process, and Aerospace Engineering Division, Burns and Roe, Inc. O 98

DERUNTZ, J. A., JR.
The significance of the concentrated load in the limit analysis of conical shells (A) Ap 82

DESIGN DATA AND METHOD. *See also* MATHEMATICS
Application of number synthesis to practical problems in creative design (A) F 72
Automated design engineering (A) Jl 68
Designing powder metallurgy parts N 53
A discipline for both obtaining and evaluating alternative product concepts (A) Jl 70
Economics of a zero or minimum defects program (A) Ag 60
Information retrieval systems and mechanical engineering data (A) Ag 63
Training 1970's design engineer My 16

DESPAIN, THOMAS H.
Obituary Ag 91

DESUPERHEATERS
Improvements in steam desuperheater performance (A) F 75

DEUTSCH, ALEX T.
Plasma spraying (C) Ja 82

DEUTSCH, RALPH (author)
Orbital dynamics of space vehicles (BR) Jl 81

DEVELOPING COUNTRIES
People-to-people program — help wanted! Mr 99
Second-hand machinery imports may help developing countries industrialize at minimum cost (A) Mr 97

DEVINE, E.
A clean friction and wear measurement device (A) O 62

DEVINE, R. E.
Effect of exposure time on cavitation damage (A) F 79

DEWERTH, D. W.
Effects of particle injection on natural gas flame radiation (A) Mr 86

DEWOLF, DANIEL W.
Obituary Jl 112

DEXTER, CHARLES F.
Obituary Jl 112

DEXTER, EDWIN M.
Appointed a vice-president of Bowles Engineering Corporation Je 108

DEXTER, GREGORY M.
Elected Fellow of ASME N 117

DHANAK, A. M.
Momentum transfer in turbulent separated flow past a rectangular cavity (A) S 84

DIAMOND
The strength of diamond (A) Ap 87

DIAPHRAGMS
Use of diaphragms in pneumatic systems (A) F 74

DIE CASTINGS. *See* METAL CASTING

DIEHL, E. K.
Polynuclear hydrocarbon emission from coal-fired installations (A) N 86

DIERMAN, HARRY
Elected Fellow of ASME My 175

DIES
Die for tungsten (A) Ag 47

DIES (*Continued*)
Ferrous casts from refractory dies (A) Ag 46
Flow characteristics through conical/converging dies (A) Je 75
Surface friction and the extremum principles for the load on the plastic-rigid body at the yield point (A) Ap 87

DIETRICH, W. K.
Casing failure problem in steam injection wells, Cat Canyon oil field, Santa Barbara County, California (A) N 82

DIFFRACTION. *See* WAVE MECHANICS

DIFFUSERS
Effects of wall shape on flow regimes and performance in straight, two-dimensional diffusers (A) Jl 75
Performance and design of straight, two-dimensional diffusers (A) Jl 73

DIGNAN, GEORGE E.
Obituary O 102

DILLON, C. P.
Impact strength of austenitic stainless-steel welds at −320F — effects of composition, ferrite content, and heat treatment (A) Ap 84

DILLON, O. W., JR.
Shock waves produced by small stress increments in annealed aluminum (A) N 84
Waves in bars of mechanically unstable materials (A) My 152

DIMENSIONAL METROLOGY. *See* WEIGHTS AND MEASURES

DINGWALL, A. G. F.
Energetics 3: thermoelectric power Ag 36

DITARANTO, R. A.
Theory of vibratory bending for elastic and viscoelastic layered finite-length beams (A) Ap 82

DIVING. *See* UNDERWATER RESEARCH AND TECHNOLOGY

DIX, EDWARD L.
Obituary Jl 112

DIXON, J. R.
Learning the science of engineering design (A) Jl 71
Measurement of sap flow in leaf petioles by a thermal method (A) Ja 76

DJOJODIHARDJO, R. H.
Fully developed laminar flow in a stepped rectangular channel (A) S 84

DOBRJANSKYJ, L.
Some applications of graph theory to the structural analysis of mechanisms (A) O 64

DOENNEBRINK, F. A.
Systems engineering O 41
Systems engineering — myth or magic (A) F 77

DONACHIE, M. J., JR.
Effect of creep exposure on the fracture toughness of two low-alloy steels (A) Ap 84
Effects of prior creep exposure on 1400 F strength of Inco 713 nickel-base alloy (A) Ap 86
Relationship of prior creep exposure to strength of wrought Udimet 700 nickel-base alloy (A) Ap 85

DONALDSON, W. A.
Automated design engineering (A) Jl 68

D'OOGE, LEONARD
Elected Fellow of ASME Mr 118

DOUGHERTY, C. R. GRAFLY
Confer E. I. T.? (C) Ag 66

DOUGLAS, GEORGE M.
Obituary O 102

DOUTHITT, C. A.
Curing adhesives in production runs (A) Ag 60

DOWELL, H. L., JR.
Branching in design of function-generator linkages (A) N 84
ESL operation (C) O 70

DOWNS, JACK E.
Elected Fellow of ASME Mr 118

DOWNS, JAMES B. T.
Obituary S 121

DOWSON, D.
Elastohydrostatic lubrication of circular plate thrust bearings (A) Ag 65

DOWTY, E. L.
Solution charts for transient heat conduction in materials with variable thermal conductivity (A) Ja 80

DOYLE, G. N.
Split compressor differential gas turbine engine for vehicle propulsion (A) Je 70

DRAFTING
Mechanization in drafting and design (A) Ap 101

DRAKE, R.
Liapunov functions and quadratic moments for high-order discrete systems (A) Ap 90

DRAPER, CHARLES STARK
Appointed to the distinguished rank of Institute Professor at MIT ..... S 114
Elected to the American Institute of Consulting Engineers ..... Je 107
DRAPER, EATON H.
Obituary ..... S 121
DRILL STRINGS. *See* PETROLEUM-WELL EQUIPMENT
DRIVES, POWER
Power transmission by multiple metal bolts on imperfect pulleys (A) ..... F 72
Smooth torque (A) ..... My 132
Variable-speed drives
1: mechanical ..... Je 32
2: hydraulic ..... Je 37
DRUCKER, DANIEL C.
Awarded Theodore von Karman Medal by American Society of Civil Engineers ..... D 99
Presented the 1966 Marburg Memorial Lecture during 69th Annual Meeting of ASTM ..... S 114
DRYDEN, HUGH L.
The man for space (ED) ..... Ja 17
DU BREUIL, F.
Polynuclear hydrocarbon emission from coal-fired installations (A) ..... N 86
DUCHARME, E. L.
Energetics 6: magnetohydrodynamic power ..... N 38
DUCTS
Experiments on laminar flow development in rectangular ducts (A) ..... Jl 73
Flow and heat transfer in ducts of arbitrary shape with arbitrary thermal boundary conditions (A) ..... Ja 77
DUDGEON, E. H.
Prediction of hydrostatic gas journal bearing performance (A) ..... Ag 65
DUDLEY, W. M.
Analysis of lateral vibrations of gears and rimmed wheels (A) ..... Ag 58
DUE, H. F., JR.
An empirical method for calculating radial pressure distribution on rotating disks (A) ..... Ja 75
DUELTGEN, RAY L.
Preventing spread of lubricants ..... D 41
Preventing the migration of lubricants (A) ..... Jl 67
DUFFY, EDWARD C.
Elected executive vice-president of Long Island Lighting Company ..... Ap 117
DUFFY, E. J.
Relative susceptibility of copper-nickel alloys to intergranular cracking in various media and at varying stress levels (A) ..... Mr 85
DUGAN, F. A.
Brookhaven experience with handling and shipping of and cask design for reactor spent-fuel elements (A) ..... F 71
DUGGER, THOMAS
Won second place in Senior Boys Physical Science Division of Dallas Regional Fair in addition to three special awards, including North Texas Section special ASME Award ..... Ag 86
DULING, I. N.
Factors affecting the viscosity of lubricants at low temperature (A) ..... Jl 67
DUMBAUGH, GEORGE D.
Vibratory hoppers ..... My 107
DUNBAR, GEORGE R.
Filament winding (A) ..... Jl 69
DUNCAN, T. N.
Named general manager of Aerospace Division of Sperry Rand's Vickers, Inc., division ..... O 98
DUNDURS, J.
Concentrated force near a smooth circular inclusion (A) ..... D 69
DUNHAM, ROBERT G.
Joined the field staff of Farrel Corporation ..... Je 108
DUNLAP, ARTHUR P.
Risk management ..... O 18
Risk management — insurance plus assurance (A) ..... Jl 65
DURAND, H. P.
Simulation of jet engine transient performance (A) ..... Mr 89
DUSSIA, R. J.
Fluorocarbon coatings for submarine ball valves (A) ..... Ag 58
DUZY, A. F.
Fusibility-viscosity of lignite-type ash (A) ..... Mr 87
DWYER, H. A.
Fiber optic and strain probe mass-flux meters for gas-solids suspensions (A) ..... Jl 74
A study of the mechanics of turbulent gas-solid shear flows (A) ..... Ja 73
DWYER, H. I.
A new approach to unit train equipment (A) ..... Jl 71

E

EARLE, CHESTER R.
Obituary ..... Mr 121
EASTON, ELMER C.
Goals of engineering education part 5 — a summation ..... Ap 30
EATON, B. A.
Prediction of pressure loss during two-phase horizontal flow in two-inch pipe (A) ..... O 67
EATON, F.
Circular and elliptical function of generation by means of a cone and cable drive (A) ..... D 63
EBERHARDT, A. D.
Microstructural alterations of rolling — bearing steel undergoing cyclic stressing (A) ..... Mr 78
ECABERT, R. J.
Steam generators for combined steam and gas turbine plants (A) ..... My 151
ECKERT, E. R. G.
Combined free and forced convection in a horizontal circular tube (A) ..... Ja 81
Laminar pressure drop associated with the continuum entrance region and for slip flow in a circular tube (A) ..... My 153
ECPD
ECPD accreditations ..... F 94
ECPD on education ..... F 94
EDGREN, EDWARD G.
Promoted to production superintendent of McGill Manufacturing Company's plant in Valparaiso, Ind. ..... Je 107
EDITORIALS
Across the chasm ..... Jl 21
Another report on the "goals" ..... N 33
Chief mechanical engineer ..... Je 17
Design engineering '66 ..... Mr 31
Educating 1970's design engineer ..... My 15
The "goals" and the curriculum ..... Ap 29
Is this trip necessary? (responsibilities of engineering) ..... Ja 19
The man for space — Hugh L. Dryden ..... Ja 17
The metals shortage ..... D 17
The new structure ..... Ag 13
Reliability and maintainability ..... F 21
Tax free: with obligations ..... S 39
Welcome, member ..... O 17
EDMONDSON, C. H.
Design, start-up, and maintenance of chemical plants (A) ..... Jl 66
EDUCATION
American Society of Engineering Education Meeting, 1966 ..... Ag 69
Design — mainstream of engineering (A) ..... F 72
ECPD accreditations ..... F 94
ECPD on education ..... F 94
Educating 1970's design engineer (Ed) ..... My 15
Engineering programs get bulk of Federal support ..... D 84
Engineering still tops the list with foreign students in U. S. ..... D 82
Engineers are going back to school, report NSPE survey ..... Je 90
Four ages of an engineer ..... O 78
Four fellowships offered ..... F 94
Goals of engineering education
part 2: dissenting opinions ..... Ja 40
part 3: ASME's plan ..... F 40
part 4: positions and comments ..... Mr 62
part 5: a summation ..... Ap 30
ASME's critical analysis ..... Ag 32
The "goals" and the curriculum (Ed) ..... Ap 29
Another report on the "goals" (Ed) ..... N 33
Correspondence ..... Ap 92, 95; My 154; Je 78
Industry views continuing education ..... S 96
Institute gives students a preview of today's technology ..... D 84
Learning the science of engineering design (A) ..... Jl 71
"Magnetrain" project ..... S 98
1965 marks the end of a five-year slump in enrollments and degrees ..... Ap 104
MIT scholarships ..... O 80
More summer jobs needed ..... S 99
News and notes ..... Ja 93; F 94; Mr 100; Ap 104; My 165; Je 90; Jl 87; S 98; O 78; N 96; D 82
Postdoctoral resident research associateship offered by National Academy of Sciences (A) ..... Ja 93
Seminars for local industry ..... O 78
Solid waste training programs ..... O 80
Residencies in industry ..... O 80
A Russian paradox: A large supply of engineers results in a shortage of engineers (A) ..... My 165
Sea-grant colleges ..... F 94
Space flight fellowships offered by Guggenheim Foundation (A) ..... Ja 93
Spotlight: The engineering program at PMC colleges ..... Ag 72
Summer employment survey released ..... S 101
Techniques of instruction in inventive design (A) ..... F 73
Training 1970's design engineer ..... My 16
EDWARD, LEROY
Rare storage (C) ..... O 71
EDWARDS, D. K.
Simultaneous radiation, conduction, and convection in a spectrally selective, emitting, and scattering porous bed (A) ..... Mr 81
EDWARDS, J. A.
A comparison of turbulent lubrication theories and a solution of Constantinescu's equation for a finite-length bearing (A) ..... S 87
EGGENBERGER, M. A.
Power response of modern reheat turbine-generators to load dispatching signals (A) ..... Ja 71
EHRICH, F. F.
Bistable vibration of rotors in bearing clearance (A) ..... Mr 89
Subharmonic vibration of rotors in bearing clearance (A) ..... Ag 56
EITMAN, D. A.
Bioxial strengthening of textured titanium (A) ..... Je 72
ELAND, K. G.
A report on steam tracing systems (A) ..... N 80
ELASTICITY
On fundamental solutions and Green's functions in the theory of elastic plates (A) ..... Ap 83
On some problems in transversely isotropic elastic materials (A) ..... Je 74
Physical model of a 3-constant isotropic elastic material (A) ..... Ap 83
ELDRIDGE, W. W., II
Dynamic characterization of automotive rubber (A) ..... F 78
ELECTRICAL ANALOGY
Errors due to a representation of source flow in an electrical analogy (A) ..... Ja 75
ELECTRIC ARCS. *See* ARCS
ELECTRIC MOTORS. *See* MOTORS, ELECTRIC
ELECTROCHEMICAL MACHINING. *See also* METAL CUTTING
A salt for ECM (A) ..... D 45
ELECTROGASDYNAMICS
Energetics 2: electrogasdynamics power ..... Jl 46
ELKUS, JAMES H.
Obituary ..... O 102
ELLIOTT, LOUIS
Obituary ..... My 179
ELLIOTT, V. A.
Progress in boiling water reactors (A) ..... N 86
ELLIOTT, WILLIAM J.
Obituary ..... Ja 119
ELLIOTT, WILLIAM S.
Obituary ..... F 107
ELMENIUS, L.
GASTEAM — a combination of gas and steam turbines (A) ..... My 150
ELROD, H. G., JR.
An experimental study of the stability of an externally pressurized gas-lubricated thrust bearing (A) ..... My 152
Stiffness effects on the infinitely wide foil bearing (A) ..... Ag 64
A theory for turbulent fluid films and its application to bearings (A) ..... D 64
EL-SADEN, M. R.
Transport processes in magnetosolidmechanics (A) ..... N 84
EL-WAKIL, M. M.
An interferometric study of mass transfer from a vertical plate at low Reynolds numbers (A) ..... Ja 80
EMERY, A. F.
Approximate solutions for a nonlinear laminar shear flow on a flat plate (A) ..... Jl 74
Heat transfer and pressure distribution in open-cavity flow (A) ..... Ja 77
Stress-intensity factors for thermal stresses in thick hollow cylinders (A) ..... Ap 85
EMG. *See* BIOTECHNOLOGY

(A) denotes Abstract; (AC) Author's Closure; (BR) Book Review; (C) Correspondence; (D) Discussion; (Ed) Editorial

EMMERSON, C. W.
Analysis and testing of air-cooled turbine rotor and stator blades (A) ..... Ja 68
EMMONS, HOWARD W.
Appointed Abbott and James Lawrence Professor of Engineering at Harvard University ..... Je 107
Elected Fellow of ASME ..... Ja 116
Goals of Engineering Education (D) My 154
EMORY, JOHN B.
Obituary ..... Ja 119
EMSLIE, ALFRED G.
Method of zones for the calculation of temperature distribution (A) ..... Ja 76
ENDO, K.
A study of erosion between two parallel surfaces oscillating at close proximity in liquids (A) ..... D 64
ENERGY
International Atomic Energy Agency sets up nuclear data unit ..... F 92
Second Nobel Conference hears: role of energy in world development ..... F 92
ENERGY CONVERSION
Energetics 1: fuel-cell systems ..... Je 22
Energetics 2: electrogasdynamic power Jl 46
Energetics 3: thermoelectric power ..... Ag 36
Energetics 4: thermionic power ..... S 56
Energetics 5: photovoltaic power ..... O 38
Energetics 6: magnetohydrodynamic power ..... N 38
Energetics 7: the comprehensive view D 34
Energy Conversion Conference, 1966 N 106
Miniature atomic batteries practical (A) D 58
ENERGY STORAGE
A battery for Tom Thumb (A) ..... S 74
A battery of zinc and air (A) ..... Mr 68
ENGDAHL, RICHARD B.
Elected Fellow of ASME ..... Ap 119
Trends in technology and economics of energy from fuels: part 2 — heating, transportation, and air pollution (A) Mr 87
ENGEL, DONALD L.
Named sales manager for the Railway Division of International Steel Company ..... S 116
ENGELKE, G. L.
Organizing a systematic salary program for the engineering department (A) Ag 61
ENGELSON, I.
Chemical plant design (A) ..... Jl 65
ENGINE ANALYZERS
New Beta engine/compressor analyzer (A) ..... Mr 79
ENGINEERING LITERATURE
Engineering eponyms (BR) ..... N 90
ENGINEERING PROFESSION. *See also* EDUCATION
Advisory Committees to screen deferment of engineers ..... F 93
Bilgewater! (C) ..... Ja 82
Call it technique ..... D 49
A common concern ..... Mr 101
Confer E. I. T.? (C) ..... Ag 66
Diplom ingenieur (C) ..... Je 82
Engineer (C) ..... F 82
The engineer at work ..... N 34
Engineer idol needed (C) ..... Ap 95
Engineer — ingenious contriver of the instruments of civilization (BR) ..... S 90
Engineer — public servant (A) ..... S 89
Engineering and ethics (C) ..... Je 83
Engineering for underdeveloped countries ..... Mr 32
Engineering salaries and recruitment — 1965-1966 ..... Ag 70
Engineers plan world organization ..... Jl 85
Ethics, unethical? (C) ..... Mr 92
Friday's obbligato (A) ..... Mr 65
GRAD: A computerized system for hiring of scarce college talent ..... Jl 87
Importance of the "big picture" (A) ..... F 77
Is this trip necessary? (responsibilities of engineering) (Ed) ..... Ja 19
Job prospects bright (A) ..... Mr 101
This licensing thing (C) ..... F 82
This licensing thing (AC) ..... My 159
Maintaining challenge in the engineer's work environment (A) ..... Ag 58
Manufacturing costs (C) ..... N 88
Mass media and the engineer: press and TV specialists advise engineers on public relations ..... F 93
More on ethics (C) ..... S 89
On the critical list: engineers ..... D 78
Orienting and training the design engineer (A) ..... Jl 67
Professional groups (C) ..... Ja 82
Professionalism (C) ..... D 71
The real engineer ..... N 95
Recruiting and keeping design engineers (A) ..... Ag 63
Slogans for engineers (C) ..... My 159
Starting salaries — UCLA ..... F 94
ENGINEERING PROFESSION *(Continued)*
Technology and humanism ..... Ja 20
The wage controversy (C) ..... Ag 66
ENGINEERING SOCIETIES
American Society of Engineering Education Meeting, 1966 ..... Ag 69
Electrical Engineers Exhibition in London (A) ..... Jl 61
Engineering Science Centennial Convocation at Lafayette College ..... Je 86
Meetings of other secities ..... Ja 111; F 102; Mr 103; Ap 112; My 172; Je 91; Jl 102; Ag 74; S 105; O 87; N 101; D 86
ENGINEERING SOCIETIES LIBRARY
ESL operation (C) ..... O 70
ESL prepares for new control system Ap 100
ENGINEERS AND SCIENTISTS COMMITTEE, INC.
People-to-people program — help wanted! Mr 99
ENGINES. *See also* GAS TURBINES; MARINE ENGINEERING
Derivation of a formula for the thermal loading of certain internal-combustion engines (A) ..... Mr 79
Development of compact 1000-hp-per-cylinder engine (A) ..... Je 66
The ice engine (A) ..... N 71
A portable digital computer for engine indicating and analysis (A) ..... Je 65
Propane as an industrial engine fuel (A) Je 65
Telemetering of information from a working internal-combustion engine (A) ..... Je 65
ENGINES, DIESEL. *See also* POWER PLANTS, DIESEL
Application of unsteady gas-dynamic theories to the exhaust system of turbocharged two-stroke engines (A) ..... Mr 79
Development of a high-specific-output, four-stroke supercharged diesel engine (A) ..... Je 66
Development of a 3000 psi (21.1 kp/sq bmep) continuous-duty diesel engine (A) ..... Je 67
Diesel and Gas Engine Power Conference, 1966 ..... Je 100
Diesel propulsion on Great Lakes ships (A) ..... Je 66
Method of turbocharging with special reference to large two-stroke diesel engines (A) ..... Je 65
New fuel additive (A) ..... Ap 76
Operating experience with large Sulzer diesel engines (A) ..... Je 64
Recent experience in the large marine diesel-engine maintenance (A) ..... Je 66
Techniques used in achieving a high specific airflow for high-output, medium-speed diesel engines (A) ..... Je 65
Tests to examine high-pressure pulse charging on a two-cycle diesel engine (A) ..... Je 67
Where does the diesel fit in the Navy's future? (A) ..... Je 66
ENGINES, GAS
Development of combustion air refrigeration system enabling reliable operating at 220 psi bmep for a large four-cycle spark-ignited gas engine (A) ..... Je 65
Diesel and Gas Engine Power Conference, 1966 ..... Je 100
High-performance gas-burning engines (A) ..... Je 67
New ignition concepts and their application to gas engines (A) ..... Je 67
ENGINES, ROTARY
Fundamentals of a new screw engine (A) Jl 75
ENGINES, SPARK IGNITION
Experience with solid-state ignition (A) Je 64
Piezoelectric ignition (A) ..... Ap 73
SCS ignition — silicon controlled for peak ignition performance and maximum reliability (A) ..... Je 67
Solid-state ignition ..... O 30
ENGLAND, A. H.
An arc crack around a circular elastic inclusion (A) ..... S 84
ENGLE, MELVIN D.
Goals of engineering education (C) ..... Je 79
ENGLISH, J. E.
Today's gas engine oils (A) ..... N 83
ENTIN, LEONARD P.
Appointed vice-president of engineering, Magnion, Inc. ..... D 99
ENVIRONMENTAL ENGINEERING. *See* AIR POLLUTION
EPONYMS
Engineering eponyms (BR) ..... N 90
ERDOGEN, F.
Stress distribution in bonded dissimilar materials containing circular or ring-shaped cavities (A) ..... Ap 81
ERICKSON, D. W.
Maintenance labor utilization (A) ..... Jl 65
ERICKSON, LESTER H.
Named vice-president of Puritan Aerosol Corporation's new Puritan Packaging Division ..... O 98
ERMER, D. S.
Maximum profit as the criterion in the determination of the optimum cutting conditions (A) ..... Je 75
ERNST, T.
Air filter application on gas turbines (A) Je 70
EROSION
Erosion of various materials by liquid-entrained abrasives (A) ..... Ap 88
A study of erosion between two parallel surfaces oscillating at close proximity in liquids (A) ..... D 64
ERVIN, THOMAS C.
Obituary ..... My 179
ESCHENBACH, P. N.
Four multiple separated positions in coplanar motion (A) ..... O 63
ESHEL, A.
Stiffness effects on the infinitely wide foil bearing (A) ..... Ag 64
ESKINAZI, S.
Two-phase turbulent flow in a plane jet (A) ..... D 67
EUROPE
The businessman's guide to Europe (BR) Ja 83
EVAN-IWANOWSKI, H. A.
Effects of longitudinal inertia upon the parametric response of elastic columns (A) ..... Ap 83
EVAN-IWANOWSKI, R. M.
Interaction of critical pressures and critical concentrated loads acting on shallow spherical shells (A) ..... My 152
EVANS, H. J.
Experimental analysis of gas turbine meter performances (A) ..... N 80
EVANS, NORMAN A.
Elected president of Pressed Steel Tank Company ..... D 99
EVAPORATORS. *See* WATER DESALINATION
EVENSEN, H. A.
Effects of longitudinal inertia upon the parametric response of elastic columns (A) ..... Ap 83
EVERETT, J. LEE, III
Elected vice-president of engineering and research of Philadelphia Electric Company ..... Je 107
EXLINE, PAUL G.
Obituary ..... Ap 121
EXPANDERS. *See* TURBINES, EXPANSION
EXPANSION JOINTS. *See* JOINTS, BELLOWS
EXTRUDERS
The plastic extruders (A) ..... Je 50

F

FACSIMILE MACHINES
Portable facsimile device (A) ..... Je 58
FAIN, MITCHELL
Obituary ..... Mr 121
FAIRLAMB, C. RICHARD
Appointed general manager of HYDE, a division of Bath Iron Works Corp. Ap 119
FANS, *See* BLOWERS
FARQUHAR, FRANCIS
Obituary ..... D 103
FARR, DONALD E.
Obituary ..... Ag 91
FATIGUE OF MATERIALS. *See also* BEARINGS
Cumulative damage and effect of mean strain in low-cycle fatigue of a 2024-T351 aluminum alloy (A) ..... Ap 85
Cyclic strain fatigue of K-Monel (A) Ag 65
Fatigue crack propagation in low-alloy, heat-treated steels (A) ..... Je 72
Fatigue of hardened steel (A) ..... Je 49
Fatigue properties of P/M parts (A) Jl 70
High-frequency fatigue of metals and their cavitation-damage resistance (A) Ap 80
Low cycle fatigue crack propagation characteristics of high-strength steels (A) ..... Je 72
Lubricant effects on fatigue in a stationary concentrated contact under vibratory loading (A) ..... Mr 79
Propagation of contact fatigue from surface and subsurface origins (A) ..... Mr 79
FEEDBACK. *See* AUTOMATIC CONTROL
FEEDWATER HEATERS. *See* BOILERS
FEEDWATER TREATMENT. *See* HEATERS
FEHLING, J.
Effect of section size on notch strength (A) ..... Je 72

FEINGOLD, A.
Diesel vs. steam for marine propulsion (A) ..... Je 66
FEIR, M.
P/M parts — today's properties (A) .. Ag 56
FEIT, D.
Impact on the surface of a compressible fluid (A) ..... Ap 80
FELLINGER, R. C.
Thermodynamic properties of combustion products (A) ..... Mr 86
FELLOWS, J. W.
Fluidics in weighing systems control (A) Jl 67
FELTON, L. P.
Analysis of shells of revolution with arbitrary meridians (A) ..... N 81
FENDERS
Sea fenders (A) ..... O 50
FERGUSON, C.
Development of a high-temperature molten lithium pump (A) ..... Ja 75
FERROMAGNETOELECTRICS
Ferromagnetoelectric (A) ..... Je 56
FETTERHOFF, K. I.
A portable digital computer for engine indicating and analysis (A) ..... Je 65
FIBER OPTICS. *See also* OPTICS
Fiber optic and strain probe mass-flux meters for gas-solids suspensions (A) Jl 74
FIBER-REINFORCED MATERIALS. *See also* COMPOSITE MATERIALS
Filament winding (A) ..... Jl 69
Yarn for a tanker (A) ..... N 54
FIEDLER, L. J.
Evaluation of heat-resistant alloys for marine gas turbine applications (A) Je 68
FIELDING, P. G.
Design for water transportation equipment (A) ..... Jl 69
FILAMENT WINDING
Filament winding (A) ..... Jl 69
FILEPP, L.
Flexible couplings ..... D 18
FILMS
Measuring fluid films (A) ..... My 141
FILTERS AND FILTRATION
Air filter application on gas turbines (A) Je 70
Air filtration for the gas turbine (A) Je 71
Condensate polishing (A) ..... S 70
Particles, fumes, and packed beds (A) Ap 64
FINNEY, PAUL B. (author)
The businessman's guide to Europe (BR) Ja 83
FINNIE, I.
Mechanism of material removal in the erosive cutting of brittle materials (A) Ap 86
On the ductile behavior of nominally brittle materials during erosive cutting (A) Ap 87
FIRE-FIGHTING EQUIPMENT
Discharge coefficients of fire nozzles (A) Jl 75
FISCHER, RALPH C.
Obituary ..... Ap 121
FISH, EDWARDS R.
Obituary ..... Ja 119
FISHER, F. G.
Computerized weighing of railroad freight cars coupled in-motion (A) Jl 72
FISHER, M. J.
Turbulence as a producer of noise in proportional fluid amplifiers (A) ..... D 68
FISHER, M. W.
Ablative rocket-nozzle design for earth entry (A) ..... Jl 70
FLAMES. *See* COMBUSTION; FURNACES
FLANAGAN, WALTER N.
Obituary ..... Ag 91
FLEMING, STUART R.
Elected to the board of directors of Stone & Webster Engineering Corporation ..... D 98
FLOWMETERS
A digital flowmeter without moving parts (A) ..... Mr 90
Experimental analysis of gas turbine meter performance (A) ..... N 80
"Instant" meter proving (A) ..... Mr 90
Measurement of sap flow in leaf petioles by a thermal method (A) ..... Ja 76
A pressure index for predicting the effect of flow profiles on orifice meter performance (A) ..... Mr 91
Quadrant-edge orifice and performance at very high Reynolds numbers (A) .... Mr 91
Survey of information concerning the effects of nonstandard approach conditions upon orifice and venturi meters (A) ..... Mr 91
FLOW OF FLUIDS. *See also* BOUNDARY LAYERS; CAVITATION; HEAT TRANSFER
Analysis of two-phase, one component stratified flow with condensation (A) Mr 81
Approximate solutions for a nonlinear laminar shear flow on a flat plate (A) Jl 74
Axisymmetrical turbulent swirling natural-convection plume
part 1 — theoretical investigation (A) S 85
part 2 — experimental investigation O 69
Critical lengths in subsonic and supersonic gas-particle flow in a vertical constant area tube (A) ..... Jl 74
Errors due to a representation of source flow in an electrical analogy (A) ... Ja 75
Experimental determination of the critical Reynolds number for pulsating Poiseuille flow (A) ..... Jl 76
An experimental study of annular flows with applications in turbulent film lubrication (A) ..... D 65
Experiments on laminar flow development in rectangular ducts (A) ..... Jl 73
Flow and heat transfer in ducts of arbitrary shape with arbitrary thermal boundary conditions (A) ..... Ja 77
Flow losses in abrupt enlargements and contractions (A) ..... F 70
Fully developed laminar flow in a stepped rectangular channel (A) ..... S 84
Hydraulic analogy to compressible gas-flow — application and experimental techniques (A) ..... Jl 74
Hydraulic analogy to compressible gas flow — theory and limitations (A) .. Jl 73
Laminar pressure drop associated with the continuum entrance region and for slip flow in a circular tube (A) My 153
Local relationships between turbulence stress gradients and mean secondary flow (A) ..... Ja 74
Maximum two-phase vessel blowdown from pipes (A) ..... Ja 80
Momentum transfer in turbulent separated flow past a rectangular cavity (A) ..... S 84
A noniterative numerical solution of Poisson's and Laplace's equations with applications to slow viscous flow (A) ..... Jl 74
Non-Newtonian laminar flow in the inlet of a pipe (A) ..... Ja 74
On the determination and combination of loss coefficients for compressible fluid flows (A) ..... F 70
Prediction of pressure loss during two-phase horizontal flow in two-inch pipe (A) ..... O 67
Remarks on snow cornice theory and related experiments with sink flows (A) Ja 74
Secondary flows in an incompressible fluid of varying density in a rotating reference frame (A) ..... Ja 72
Separation in the flow between eccentric rotating cylinders (A) ..... Jl 74
Slow steady flow of a viscous liquid in an annulus with uniform arbitrary injection and suction velocities along the walls (A) ..... O 69
A study of the mechanics of turbulent gas-solid shear flows (A) ..... Ja 73
A theory for froth flow in horizontal pipes (A) ..... Ja 72
Theory of the bathtub vortex (A) ..... D 66
Turbulent pipe flow of an internally heat generating fluid (A) ..... Ja 78
Two-phase turbulent flow in a plane jet (A) ..... D 67
FLOW OF SOLIDS
A study of the mechanics of turbulent gas-solid shear flows (A) ..... Ja 73
FLOW VISUALIZATION
A facility for flow visualization in a large-scale turbine stage (A) ..... Ja 71
A practical three-dimensional flow visualization approach to the complex flow characteristics in a centrifugal impeller (A) ..... Je 68
FLUGGE, W.
Point load on a shallow elliptic paraboloid (A) ..... N 85
FLUID AMPLIFIERS. *See also* VALVES
Application of fluid-state devices to process-control computation (A) .... F 76
Development of a pure fluid NOR gate and a NOR logic binary-to-decimal converter (A) ..... Ap 90
Feasibility study of a fluidic control subsystem (A) ..... Mr 82
Flueric controls: a description of available components and current applications (A) ..... Mr 83
FLUID AMPLIFIERS *(Continued)*
Flueric operation on pressure signals (A) F 76
Fluidic systems design guide (BR) ..... D 85
Fluidics and Navier-Stokes (A) ..... Ag 49
Fluidics in process control (A) ..... Ag 62
Fluidics in weighing systems control (A) Jl 67
High-pressure flueric control components (A) ..... Ag 58
The new challenge: fluid amplifiers .... Ja 36
Turbulence as a producee of noise in proportional fluid amplifiers (A) .... D 68
FLUID MECHANICS
An experimental study of the response of a small porous chamber to forced oscillation (A) ..... F 79
Impact on the surface of a compressible fluid (A) ..... Ap 80
A modified Gibbs experiment (A) ..... F 76
Thermofluid mechanics (BR) ..... Je 84
FLUID METERS. *See* FLOWMETERS
FLUIDS ENGINEERING
Four-parameter generalized compressibility charts for nonpolar fluids (A) .... F 75
FLYNN, WILLIAM J.
Elected president of the Institute of Engineers ..... Je 107
FOHL, HARRY A.
Obituary ..... S 121
FOLEY, MATTHEW J.
Obituary ..... D 103
FOLSOM, RICHARD G.
Technology and humanism ..... Ja 20
FOLTZ, CHARLES J.
Obituary ..... S 121
FOOTE, J. R.
The Cp for accelerated slender bodies (A) Ap 83
FORMAN, R. G.
Effect of plastic deformation on the strain energy release rate in a centrally notched plate subjected to uniaxial tension (A) ..... Ap 86
FORSBERG, K.
Point load on a shallow elliptic paraboloid (A) ..... N 85
FOSTER, EDWARD E.
Obituary ..... Mr 121
FOSTER, W. C.
A nonlinear filter for independent gain and phase (with applications) (A) Mr 82
FOSTER-PEGG, R. W.
Trends in combined steam-gas turbine power plants in the U. S. A. (A) .... My 151
FOUCH, GEORGE E.
Reliability and maintainability: part 4 — military: the logistics challenge .... My 125
FOWLER, HOWARD S.
Some measurements of the flow pattern in a centrifugal compressor impeller (A) ..... Ja 70
FOWLER, J. E.
A facility for flow visualization in a large-scale turbine stage (A) ..... Ja 71
FOX, R. L.
Optimum design of curve-generating linkages with inequality constraints (A) O 63
FRACTURE MECHANICS
Fracture mechanics — epoxy resins (A) F 79
FRANTZ, W.
Simulated high gas-flow testing (A) .. Mr 84
FRANZ, W. F.
Development and performance of the USS improved buttress-thread oil-well tubing joint (A) ..... N 79
FRASER, J. P.
Experimental measurement of stresses while laying pipe offshore (A) ..... N 83
FRASS, ARTHUR P. (author)
Heat exchanger design (BR) ..... F 83
FRAAS, A. P.
A potassium-steam binary vapor cycle for a molten-salt reactor power plant (A) My 149
FREEMAN, D. C., JR.
The role of cryogenics in the application of superconductive magnets (A) ..... Jl 68
FREEMAN, J. W.
Carbon and carbon-moly steam pipe after long-time service (A) ..... Ap 86
Creep-rupture properties of 1.25 Cr-0.5 Mo steel after service at 1000 F (A) Ap 85
FRENCH, R. F.
Aircraft gas turbine rotating compressor disk vibration (A) ..... Ja 69

(A) denotes Abstract; (AC) Author's Closure; (BR) Book Review; (C) Correspondence; (D) Discussion; (Ed) Editorial

FREUDENSTEIN, F.
High-order plane motion theories in kinematic synthesis (A) ..... O 66
Received Great Teacher Award from the Society of Older Graduates of Columbia University ..... Je 107
Some applications of graph theory to the structural analysis of mechanisms (A) ..... O 64

FREY, CARL
Named assistant secretary of U. S. National Committee World Power Conference ..... S 116

FRICTION
A clean friction and wear measurement device (A) ..... D 62

FRIEDLANDER, WALTER H.
Obituary ..... Ja 119

FRITSCH, C. A.
Radiative heat transfer through an absorbing boundary layer (A) ..... Mr 81

FROHRIB, D. A.
Free vibrations of stiffened drill strings with static curvature (A) ..... O 68

FROLANDER, FRANK C.
Obituary ..... O 103

FRY, ALBERT H.
Obituary ..... F 107

FRYLING, GLENN R.
Goals of engineering education (D) ..... My 158

FUCHS, F. J., JR.
Hydrostatic pressure: its role in metal forming ..... Ap 34

FUCHS, HENRY O.
Elected Fellow of ASME ..... Ap 119

FUEL CELLS
Energetics 1: fuel-cell systems ..... Je 22
A long-life fuel cell (A) ..... Jl 49

FUELS
Fusibility-viscosity of lignite-type ash (A) ..... Mr 87
Propane as an industrial engine fuel (A) ..... Je 65
Trends in technology and economics of energy from fuels: part 2 — heating, transportation, and air pollution (A) ..... Mr 87
Trends in technology and economics of energy from fuels: part 3 — electricity generation, direct conversion, and high-energy fuels (A) ..... Mr 86

FUKUI, K.
Concentrated force near a smooth circular inclusion (A) ..... D 69

FUKUI, T.
Concentrated force near a smooth circular inclusion (A) ..... D 69

FULLER, D. D.
On the analytical and experimental investigation of a hydrostatic, axisymmetric compliant-surface thrust bearing (A) ..... D 64

FUNCTION GENERATORS. *See* KINEMATICS

FURNACES. *See also* COMBUSTION
Basic oxygen furnaces (A) ..... Je 61
Effects of particle injection on natural gas flame radiation (A) ..... Mr 86

FURSMAN, LEWIS E.
Obituary ..... O 103

FUSION
A visual entropy of fusion (A) ..... D 50

G

GABOR, HARRY W.
Obituary ..... Ag 91

GABRIEL, R.
Selecting transmissions for precision positioning applications (A) ..... Ag 60

GADD, C. W.
Strength of skin and its measurement (A) ..... Ap 88

GAIN, B. R.
Effect of temperature on cyclic creep (A) ..... Je 72

GALL, WILLIAM ROLFE
Elected Fellow of ASME ..... Mr 118

GALLAGHER, JOHN J.
Obituary ..... O 103

GALLOWAY, D. E.
Grouting of compressors and heavy machinery with epoxy (A) ..... N 79

GANS, JAMES W.
Obituary ..... Mr 121

GARBINSKI, ERNEST H.
Named results engineer in the production department, Detroit Edison Co. ..... O 100

GARTMANN, HANS
Elected Fellow of ASME ..... Ja 116

GASCHE, FRED
Obituary ..... S 121

GASES. *See also* NATURAL GAS
The dynamics of real air from subcritical temperature to 1500 K (A) ..... S 84
Solution of rarefied-gas transport problems (A) ..... Ja 76
Transfer functions of the pneumatic capacitance (A) ..... Ap 90

GAS TURBINES. *See also* COMPRESSORS; POWER PLANTS, GAS TURBINE
Aircraft gas turbine rotating compressor disk vibration (A) ..... Ja 69
Air filter application on gas turbines (A) ..... Je 70
Air filtration for the gas turbine (A) ..... Je 71
Analysis and testing of air-cooled turbine rotor and stator blades (A) ..... Ja 68
Application of closed-cycle gas turbine system technology to mobile nuclear power plants (A) ..... My 147
An axial-flow reserving gas turbine for marine propulsion (A) ..... My 144
Closed Brayton cycle for space power: an assessment (A) ..... My 147
Closed-cycle gas turbine for nonconventional applications (A) ..... My 147
Closed-cycle turbomachinery (A) ..... My 149
Computed aspect ratio-curvature effects upon the performance of a high-pressure-ratio single — stage compressor (A) ..... Ja 68
Could today's gas turbine technology benefit from new cycle concepts? (A) ..... Jl 75
Design and development of the Orenda OT-4 gas turbine (A) ..... My 143
Design and performance characteristics of overrunning clutches in gas turbine drive applications (A) ..... Je 68
Design considerations for marine gas turbine ducting (A) ..... My 143
Design of combustion chambers of heaters for transmission of the primary heat of closed-cycle gas turbines (A) ..... My 148
Development of a gas-ceramic axial-flow rotary regenerator (A) ..... Je 70
Development of a marine version of the United Aircraft of Canada PT6 engine (A) ..... My 145
Development of the General Electric LM 1500 gas turbine as a marine power plant (A) ..... My 145
Effect of vacuum arc remelting of airmelt electrodes on the structure and elevated-temperature properties of a nickel-base gas turbine superalloy (A) ..... My 145
Electric hydraulic governor control for industrial and commercial gas turbine use (A) ..... Je 70
Elimination of turbine erosion in the T56 turboprop engine (A) ..... Ja 70
Energy exchanger, a new concept for high-efficiency gas turbine cycles (A) ..... Je 70
Evaluation of heat-resistant alloys for marine gas turbine applications (A) ..... Je 68
Evaluation of compressor and turbine bladings in gas turbine design (A) ..... Je 70
Expansion turbine (A) ..... Ja 69
Facilities and instrumentation for aircraft engine noise studies (A) ..... My 151
Five years' experience with aircraft gas turbines in industrial applications (A) ..... Je 69
For industry: gas turbine vs. reciprocating ..... N 58
Future of gas turbines (A) ..... F 60
Gas turbine ball bearing design (A) ..... Ag 63
Gas Turbine Conference and Products Show, 1966 ..... My 166
Gas turbine engines in the Royal Canadian Navy prototype hydrofoil vessel (A) ..... My 144
Gas turbine engines versus reciprocating engines for industrial applications (A) ..... Je 67
Gas turbine installation design for naval ships (A) ..... My 142
Gas turbines and waste heat boilers (A) ..... My 151
Gas turbines in the Royal Navy (A) ..... My 144
Increasing strength of gas turbine alloys by cold work prior to aging (A) ..... My 145
Influence of current research and development on the application of the open-cycle gas turbine as a propulsion unit for merchant ships (A) ..... My 144
Influence of microstructure and heat-temperature on impact and creep properties of a low alloy Cr-Mo-V turbine steel (A) ..... My 145
Internally generated noise from gas turbine engines. Measurement and prediction (A) ..... My 151

GAS TURBINES *(Continued)*
Jet engine: marine conversion ..... Je 44
Marine development of the Olympus engine (A) ..... My 142
Marine gas turbine (A) ..... My 144
The marine gas turbine ..... O 22
Marine gas turbine growth in the U. S. Coast Guard (A) ..... My 142
Marine gas turbines (A) ..... S 78
Marine gas turbines: their development and capabilities (A) ..... My 145
Military potential of the small gas turbine (A) ..... Je 69
On a wave phenomenon in turbines (A) ..... Je 68
Perspectives for the liquid phase compression gas turbine (A) ..... Je 69
Prewhirl an added degree of freedom to the designer of small single-shaft gas turbines (A) ..... Je 71
Problems related to the development of a gas turbine in the 10–30 hp class (A) ..... Je 69
Simulation of jet engine transient performance (A) ..... Mr 89
Small gas turbines in industrial applications (A) ..... Je 70
Split compressor differential gas turbine engine for vehicle propulsion (A) ..... Je 70
Supersonic cascade tunnel used to evaluate compressor blade performance (A) ..... Ja 68
Supersonic expansion in radial-inflow turbine nozzle vanes (A) ..... Ja 68
A Swedish all-gas-turbine torpedo boat with controlled pitch propellers (A) ..... My 144
Thrust augmentation (A) ..... Jl 75
Traveling-wave vibration of gas turbine engine shells (A) ..... Ja 69
Turbine boat (A) ..... Je 56
U. S. Navy's marine gas turbines (A) ..... My 143
Whither go the small gas turbines? (A) ..... Je 71

GAY, H. M., JR.
New engineering techniques for application to deep-water mooring (A) ..... N 81

GEARS
Adjustment characteristics of spiral bevel and hypoid gears (A) ..... D 60
Analysis of lateral vibrations of gears and rimmed wheels (A) ..... Ag 58
Influence on the tooth surface deformation upon the capacity of hydrodynamically lubricated spur gears (A) ..... Ag 64
Irregular motion of rotation best produced by elliptical gears (A) ..... D 62
The variable curvature of a crown tooth (A) ..... My 128
The web and the hub (A) ..... Ap 66

GEIGER, T.
Influence of microstructure and heat-treatment on impact and creep properties of a low alloy Cr-Mo-V turbine steel (A) ..... My 145

GENTILE, A. J.
Effects of prior metallurgically induced compressive residual stress on the metallurgical and endurance properties of overload-tested ball bearings (A) ..... Mr 78

GEOLOGY
Mechanical behavior of anisotropic sedimentary rocks (A) ..... O 68

GERARD, G.
Optimum thin-wall pressure vessels of anisotropic materials (A) ..... S 85

GERSTENKORN, G. T.
Structural analysis of an arteriole by the direct stiffness method (A) ..... Je 73

GHAZI, H. S.
A pressure index for predicting the effect of flow profiles on orifice meter performance (A) ..... Mr 91

GIANNOTTI, H.
Air filtration for the gas turbine (A) Je 71

GIBBINGS, J. C.
Errors due to a representation of source flow in an electrical analogy (A) ..... Ja 75

GIBBONS, W. G.
Cyclic strain fatigue of K-Monel (A) Ag 65

GIBSON, H. G.
Fiber optic and strain probe mass-flux meters for gas-solids suspensions (A) ..... Jl 74

GIEDT, W. H.
Heat transfer measurements from a partially dissociated gas with high Lewis number (A) ..... Ja 78

GIES, ROBERT PAUL
Named project supervisor in the production department, Detroit Edison Co. ..... O 99

GIESEKING, D. L.
A nonlinear filter for independent gain and phase (with applications) (A) Mr 82
GIESKING, P. F.
Covered ore cars and automatic loading and weighing features (A) ....F 75
GIESLER, JEAN V.
Obituary ....D 103
GILBRETH, LILLIAN M.
Successful engineering management (BR) O 72
GILKEY, H. E.
Mechanics of punching circular holes in materials for data handling (A) ....Ap 87
GILL, ROBERT A.
Named supervisor of the chemical and metallurgical division of the engineering research department, Detroit Edison Co. ....O 100
GILLS, B. G.
Insulated steel chimneys avoid corrosion and smut emission (A) ....Mr 87
GILMORE, CHARLES M.
Obituary ....Ap 121
GITTERMAN, HENRY
Promoted to assistant director of the Nuclear, Process, and Aerospace Engineering Division, Burns and Roe, Inc. ....O 98
GLASER, P. E.
Role of solar furnaces in the processing of extraterrestrial resources (A) ....Ap 90
Solar power: reality or vision ....Mr 42
GLENN, R. A.
Polynuclear hydrocarbon emission from coal-fired installations (A) ....N 86
GLENNAN, T. KEITH
Received honorary degree of doctor of science at Centennial Year Commencement, Lehigh University ....Ag 87
GODSHALL, M. M.
Eddy-current inspection of pipe at 2150 F (A) ....N 83
GOGLIA, MARIO J.
Named vice-chancellor for research of the University System of Georgia ....Ap 118
GOLAND, MARTIN
Elected vice-president of ASME ....N 115
GOLDSCHMIED, F. R.
Feasibility study of a fluidic control subsystem (A) ....Mr 82
GOLDSCHMIDT, V.
Two-phase turbulent flow in a plane jet (A) ....D 67
GOOD, E. B.
Gas turbine installation design for naval ships (A) ....My 142
GOODMAN, A.
A full-scale, lighter-than-air submarine simulator system (A) ....Ap 80
GOODMAN, L.
Biomedical engineering/instrumentation (A) ....Ag 56
GOODMAN, R. M.
Biological telecommunications (A) ....Ag 58
GOODMAN, T. R.
Potential flow solution of propeller-driven jets used for submarine depth control (A) ....Jl 74
GOODSON, R. E.
Identification of systems described by partial differential equations (A) ....Mr 82
GORESH, J. W.
Heat transfer in cylindrical pipes with fully established turbulent flow and exposed to a uniform temperature environment (A) ....Mr 80
GORMLY, MAURICE W.
Reelected vice-president of the Grinding Wheel Institute ....Ap 118
GORTON, R. E.
Facilities and instrumentation for aircraft engine noise studies (A) ....My 151
GORZEGNO, W. P.
Supercharged steam generator: some aspects of design and pressure level selection (A) ....My 150
GOTTLIEB, G. L.
An energy-optimal control law for a system with bounded time and control (A) ....Mr 84
GOULD, ARTHUR F.
Elected treasurer of the National Council of Industrial Engineering Academic Department Heads ....Je 107
GOURDINE, M. C.
Energetics 2: electrogasdynamic power Jl 46
GOVERNORS
Electric hydraulic governor control for industrial and commercial gas turbine use (A) ....Je 70
GOVONI, E. M.
Energetics 6: magnetohydrodynamic power ....N 38
GOW, RALPH F.
Named "Chevalier de l'Ordre National du Mérite" and presented the Medal of the Order by the French Government ..Ag 87
GRAF, SAMUEL H.
Obituary ....O 103
GRAHAM, PAUL S.
Obituary ....Ap 121
GRAM, A. J.
New regenerative air heater ....S 45
A new regenerative air heater for power boilers (A) ....Ja 71
GRANAN, J. R.
Pumps for liquid-metal flight controls (A) ....Jl 75
GRAPHITE
Eponymous graphite (A) ....Ja 55
Pyrolytic graphite (A) ....S 83
GRAVES, G. L., JR.
U. S. Navy's marine gas turbines (A) My 143
GRAY, A. H., JR.
First-passage time in a random vibrational system (A) ....My 153
GRAY, K. E.
Mechanical behavior of anisotropic sedimentary rocks (A) ....O 68
GREADY, J. M.
Named government sales manager by American Chain & Cable Company, Inc. ....O 98
GREEN, J.
Role of solar furnaces in the processing of extraterrestrial resources (A) ....Ap 90
GREENLEE, J. W.
Plant engineering for a chemical plant (A) ....Jl 64
GREER, H.
Low thrust reaction jet performance (A) Mr 82
GRIEP, D. J.
Low thrust reaction jet performance (A) Mr 82
GRIESHABER, EUGENE R.
Obituary ....Ap 121
GRIFFIN, CECIL S.
Obituary ....N 119
GRIFFIN, W. S.
A study of fluid squeeze-film damping (A) ....Mr 84
GRIFFITH, EARL L.
Obituary ....Ag 91
GRIFFITH, J. Q., III
Factors affecting the viscosity of lubricants at low temperatures (A) ....Jl 67
GRINDING
Ultrasonic grinding economics (A) ....Je 75
GRINTER, L. E.
Goals of engineering education: part 4 — positions and comments ....Mr 62
GRISWOLD, ARTHUR S.
More on nuclear power (C) ....O 71
GRISWOLD, NELSON D.
Presented The President's Achievement Award at Case Institute of Technology ....D 100
GROGAN, PAUL J.
Appointed director of the Office of State Technical Services, U. S. Department of Commerce, Washington, D. C. ....O 101
GROSH, R. J.
Radiative heat transfer through an absorbing boundary layer (A) ....Mr 81
GROSS, WILLIAM A.
Elected vice-president — research and advanced technology of Ampex Corp. Ap 117
GROTZ, B. J.
Evolution of gas reactor steam generators (A) ....F 71
GROUND-EFFECT MACHINES
Design for water transportation equipment (A) ....Jl 69
Peripheral jets in proximity of the ground (A) ....S 85
Safety for high-speed surface transportation ....S 41
GROUTING
Grouting of compressors and heavy machinery with epoxy (A) ....N 79
GRUETTER, R. D.
Simulated high gas-flow testing (A) ..Mr 84
GURA, I.
Systematic determination of practical stability regions for nonlinear systems (A) ....Ap 90
GURLAND, J.
Some effects of temperature and heat-treatment on the strength of sintered WC-Co alloys (A) ....Ag 60
GUSTAVSON, R. E.
Computer-aided design of window regulator mechanisms (A) ....D 60
GUTMANN, FREDERICK T.
Goals of engineering education (C) ....Je 81
GUTTMAN, H.
Compressive properties of cemented carbides (A) ....Jl 70
GYORY, C. K.
Kinematic synthesis of plane curves (A) O 64
GYRODYNAMICS
Application of dual quaternions to the study of gyrodynamics (A) ....O 64
GYROSCOPES
Hydrodynamics gyroscope (A) ....D 67
GYSSLER, G.
Methods of turbocharging with special reference to large two-stroke diesel engines (A) ....Je 65

H

HABACH, GEORGE F.
Elected vice-president of ASME ....N 115
HADLEY, STANTON A.
Obituary ....Ap 121
HAFSTROM, H. G.
A Swedish all-gas-turbine torpedo boat with controlled pitch propellers (A) My 144
HAGERTY, WILLIAM W.
Elected a director of Philadelphia Electric Company ....Je 107
HAHN, E. J.
Transfer function of the pneumatic capacitance (A) ....Ap 90
HAHN, ROBERT S.
Received the Worcester Engineering Society's Scientific Achievement Award Ap 117
HAJI-SHEIKH, A.
Flow and heat transfer in ducts of arbitrary shape with arbitrary thermal boundary conditions (A) ....Ja 77
Solution of heat conduction problems by probability methods (A) ....N 87
HALE, T. E.
Compressive properties of cemented carbides (A) ....Jl 70
HALFPENNY, P. F.
Survey of information concerning the effects of nonstandard approach conditions upon orifice and venturi meters (A) ....Mr 91
HALL, A. S., JR.
An analytical study of the dynamics of an elastic linkage (A) ....F 72
HALL, I. K., JR.
Analysis of lateral vibrations of gears and rimmed wheels (A) ....Ag 58
HALLEEN, R. M.
Laminar boundary layer on a rotating circular arc blade (A) ....F 80
HAMANN, JOHN R.
Named assistant manager of engineering, Detroit Edison Co. ....O 100
HAMILTON, D. B.
A theory of lubrication by microirregularities (A) ....Mr 85
HAMMING, KENNETH W.
Appointed director of engineering, Sargent and Lundy ....Je 108
Appointed senior partner, Sargent & Lundy ....O 98
HAMMITT, F. G.
Cavitation bubble collapse observations in a venturi (A) ....F 80
Cavitation damage studies with rotating disk in water (A) ....Jl 75
Two-phase materials attrition problems for Rankine-cycle liquid-metal power plants (A) ....My 147
HAMMOND, THEODORE E.
Named vice-president of marketing, Erie City Iron Works ....O 98
HAMPTON, R. S.
Goals of engineering education (C) ....Ap 93
HAMROCK, B. J.
The Rayleigh step bearing applied to a gas-lubricated journal of finite length (A) ....Mr 84
HANGS, FRANK
Heated oil pipe lines (A) ....N 82
HANSEN, ARTHUR G.
Design of water-jet pumps: part 1—experimental determination of optimum design parameters (A) ....F 79
Design of water-jet pumps: part 2—jet-pump system characteristics (A) ....Ja 73
Optimization of jet jump systems (A) Jl 74
HANSEN, J. A.
Material-handling complex for construction of Oroville Dam (A) ....Mr 85
HANZALEK, F. J.
Boiler-turbine coordination during start-up and loading of large units (A) ....Ja 71

(A) denotes Abstract; (AC) Author's Closure; (BR) Book Review; (C) Correspondence; (D) Discussion; (Ed) Editorial

HARDY, G.
Development of a marine version of the United Aircraft of Canada PT6 engine (A) ..... My 145
HARGIS, A. M.
The plate heat exchanger (A) ..... N 83
HARLOW, JAMES H., II
Receives Delaware County "Engineer of the Year" citation ..... Ap 118
HARLOW, JAMES H., III
Chief mechanical engineering (Ed) ..... Je 17
Named vice-president and executive engineer of Philadelphia Electric Company ..... Je 107
HARPER, ARTHUR C.
Obituary ..... O 103
HARRINGTON, R.
Dynamics of a two-axis pedestal (A) ..... F 72
HARRINGTON, ROBERT J.
Promoted to manager—pipe mold sales, National Forge Company ..... D 100
HARRIS, BENJAMIN F., JR.
Obituary ..... Ag 91
HARRIS, E. S.
Improvements in steam desuperheater performance (A) ..... F 75
HARRIS, W. R.
Solid-state equipments for high-power drive controls (A) ..... Ag 59
HARRISBERGER, L.
Design of the spherical drag-link mechanism (A) ..... O 63
Named Halliburton Chair of Engineering at Oklahoma State University ..... Ap 116
Precision six-link dwell mechanisms (A) ..... N 84
A survey of three-dimensional mechanisms with one general constraint (A) ..... D 61
HARRISON, E. R.
An experimental investigation of safety relief valve flow and dynamic operation (A) ..... N 80
HARRISON, NORMAN C.
Flexible couplings ..... D 18
HARROD, CHARLES F.
Obituary ..... Je 111
HARTRIDGE, ALFRED L.
Elected president of Stone & Webster Engineering Corp. ..... Je 107
HARTUNG, H. A.
Entrance space in rolling contacts (A) ..... Mr 85
HARTWELL, ROBERT W.
Named assistant manager of operations, Detroit Edison Co. ..... O 100
HATHAWAY, CHARLES A.
Appointed director of air moving divisions, Torrington Manufacturing Company ..... Je 108
HAUGEN, R. L.
Momentum transfer in turbulent separated flow past a rectangular cavity (A) ..... S 84
HAUSCHILDT, M. R.
U. S. Navy's marine gas turbines (A) ..... My 143
HAVEY, E. J., JR.
Alternate structural arrangements of the design engineering department (A) ..... S 82
HAWLEY, J. P.
Snap-10A reactor operation (A) ..... Mr 88
HAWLEY, RANSOME S.
Obituary ..... Ap 121
HAWORTH, D. R.
Solution charts for transient heat conduction in materials with variable thermal conductivity (A) ..... Ja 80
HAYDOCK, JOHN
Obituary ..... O 103
HAYNIE, T.
Lightweight solar panel deployment mechanisms for spacecraft (A) ..... D 61
HAYS, D. F.
The numerical solution of a special Hill equation in lubrication theory (A) ..... S 87
HAYWORTH, R. F.
Watertight electrical cable penetrations for submersibles—past and present (A) ..... Ap 81
HAZARD, HERBERT R.
Elected Fellow of ASME ..... Je 108
HAZLETT, T. H.
Role of material properties and interface temperatures in friction welding dissimilar metals (A) ..... Ag 65
HEAGERTY, J. J.
Steam-turbine-driven auxiliary generators (A) ..... N 85
HEART VALVES. *See* BIOTECHNOLOGY
HEAT-EXCHANGE EQUIPMENT. *See also* TUBE SHEETS
Analytical prediction of spacecraft radiator performance (A) ..... Ja 80
Automatic condenser cleaning (A) ..... Mr 77
Calorimetric evaluation of heat transference by Admiralty condenser tubes (A) ..... Mr 85
HEAT-EXCHANGE EQUIPMENT *(Continued)*
Dynamic analysis and experimental measurements for a single-fluid heat exchanger (A) ..... Ja 81
Heat exchanger using short tubes for efficient operation in laminar flow region (A) ..... Ja 76
High-temperature heat exchanger problems (A) ..... N 80
Optimization of some radiators with fins and evolute reflectors (A) ..... Ja 78
The plate heat exchanger (A) ..... N 83
Relative susceptibility of copper-nickel alloys to intergranular cracking in various media and at varying stress levels (A) ..... Mr 85
The single-blow transient testing technique for compact heat exchanger surfaces (A) ..... Je 69
HEAT PUMPS
Revised refrigeration cycle (A) ..... Mr 68
HEAT TRANSFER. *See also* COOLING SYSTEMS
An all-numerical method for heat transfer in the inlet of a tube (A) ..... Ja 76
Analytical solution of conduction problems in composite media (A) ..... Ja 80
Axisymmetrical turbulent swirling natural-convection plume: part 1—theoretical investigation (A) ..... S 85
Axisymmetrical turbulent swirling natural-convection plume: part 2—experimental investigation (A) ..... O 69
Boundary-layer cooling by spattered particles (A) ..... N 87
Calculation of radiant heat exchange by the Monte Carlo method (A) ..... Mr 81
Combined free and forced convection in a horizontal circular tube (A) ..... Ja 81
Comparison between exact and one-dimensional theories for incipient melting in reentry simulation (A) ..... Ja 75
Critical heat flow in long tubes at 1000 psi with and without swirl promoters (A) ..... Ja 78
Direct numerical simulation of thermal radiation in vacuum (A) ..... Ja 75
Effect of suction and injection on the heat transfer and flow in a turbulent separated airflow (A) ..... Mr 80
Effects of free-stream turbulence and pressure gradient on flat-plate boundary-layer velocity profiles and on heat transfer (A) ..... N 87
Effects of upstream compressibility on subcooled critical heat flux (A) ..... Ja 81
Experimental investigation and confirmation of the reversed heat conduction in natural convection at a thermal leading edge on a vertical wall (A) ..... Mr 81
Film free convection in helium II (A) ..... Ja 79
Flow and heat transfer in ducts of arbitrary shape with arbitrary thermal boundary conditions (A) ..... Ja 77
Forced-convection heat transfer to superheated steam at high-pressure and high Prandtl numbers (A) ..... Ja 76
Geometric analog for transient heat conduction (D) ..... Ja 77
Heat exchange in fluid-dense particle moving beds (A) ..... N 87
Heat-loss analysis for deep-diving oceanauts (A) ..... Ja 77
Heat transfer and pressure distribution in open-cavity flow (A) ..... Ja 77
Heat transfer effects on the developing laminar flow inside vertical tubes (A) ..... Mr 80
Heat transfer from a shrouded rotating disk with film cooling (A) ..... Mr 80
Heat transfer from an oscillating horizontal wire to water and ethylene glycol (A) ..... Ja 80
Heat transfer in cylindrical pipes with fully established turbulent flow and exposed to a uniform temperature environment (A) ..... Mr 80
Heat transfer in parallel rod arrays (A) ..... Mr 80
Heat transfer measurements from a partially dissociated gas with Lewis number (A) ..... Ja 78
Heat transfer of thin fins with temperature-dependent thermal properties and internal heat generation (A) ..... Mr 81
Heat transfer research in the deep ocean (A) ..... Ap 80
Influence of tube orientation on combined free and forced laminar convection heat transfer (A) ..... Ja 80
An interferometric study of mass transfer from a vertical plate at low Reynolds numbers (A) ..... Ja 80
Internal low Reynolds number turbulent and transitional gas flow with heat transfer (A) ..... Mr 80
HEAT TRANSFER *(Continued)*
International Heat Transfer Conference, 1966 ..... O 88
Method of zones for the calculation of temperature distribution (A) ..... Ja 76
Nonsimilar boundary-layer heat transfer of a rotating cone in forced flow (A) ..... Ja 79
Off-specular peaks in the directional distribution of reflected thermal radiation (A) ..... Mr 80
Prediction of the thermal conductivity of filled and reinforced plastics (A) ..... Ja 77
Radiative heat transfer through an absorbing boundary layer (A) ..... Mr 81
Radiative interchange factors by Monte Carlo method (A) ..... Mr 81
Recent developments in calculation methods for turbulent boundary layers with pressure gradients and heat transfer (A) ..... S 86
A review of digital-computer heat transfer programs (A) ..... Ja 79
Simultaneous radiation, conduction, and convection in a spectrally selective, emitting, and scattering porous bed (A) ..... Mr 81
The single-flow transient testing technique for compact heat exchanger surfaces (A) ..... Je 69
Slug flow and film boiling of hydrogen (A) ..... Ja 78
Solution charts for transient heat conduction in materials with variable thermal conductivity (A) ..... Ja 80
Solution of heat conduction problems by probability methods (A) ..... N 87
Solution of rarefied-gas transport problems (A) ..... Ja 76
Thermal conductivity of gases and liquids (BR) ..... Ja 83
Thermal modeling applied to animal systems (A) ..... Mr 80
Transfer of lithium vapor (A) ..... Ap 68
Transient laminar free-convection heat and mass transfer in two-dimensional closed containers containing distributed heat source (A) ..... Mr 81
Transient phenomena in heat transfer across surfaces in contact (A) ..... Ja 81
Transport phenomena from cylinders in reciprocating harmonic rotation, including uniform suction or blowing (A) Ja 78
Turbulent heat transfer in the separated, reattached, and redeveloped regions of a circular tube (A) ..... Ja 77
HEATERS AND HEATING
New regenerative air heater ..... S 45
A new regenerative air heater (C) ..... N 89
Operating experience with the Babcock & Wilcox regenerative air heater (A) ..... N 85
Selection of design of closed feedwater heaters (A) ..... F 70
HEATING SYSTEMS
Three solar houses (A) ..... Ap 90
HEDGECOCK, RUSSELL H.
Thermal power from seawater (D) ..... Jl 80
HEDLEY, A. B.
Available mechanisms for deposition from a combustion gas stream (A) ..... Mr 89
Deposition of oil ash constituents from high-temperature gas streams (A) Mr 89
Vanadium pentoxide deposition from combustion gases (A) ..... Mr 89
HEIDERBACH, FRITZ G.
Obituary ..... Ap 121
HEIDRICH, A., JR.
Calorimetric evaluation of heat transference by Admiralty condenser tubes (A) ..... Mr 85
HEILMAN, RUSSELL H.
Obituary ..... O 103
HEIMANN, WERNER
More on pipes (C) ..... D 70
HEIN, Q. W.
Flexible couplings ..... D 18
HEINSOHN, R. J.
Increase in the maximum heat-release rate and apparent flame strength of opposed-jet diffusion flames under impressed electric fields (A) ..... Mr 86
HEISER, W. H.
Thrust augmentation (A) ..... Jl 75
HELIUM
Film free convection in helium II (A) ..... Ja 79
HELMICH, M. J.
Development of combustion air refrigeration system enabling reliable operation at 220 psi bmep for a large four-cycle spark-ignited gas engine (A) ..... Je 65
HELMS, H. E.
Analysis and testing of air-cooled turbine rotor and stator blades (A) ..... Ja 68

HENDERSON, R. E.
Energetics 7: the comprehensive view D 34
HENRY, CHARLES R.
Designing with plutonium and uranium Je 28
HENRY, F. G.
Requirements for compact shipboard interior communications (IC) equipment (A) Je 74
HERMAN, E. OLNEY
Obituary S 121
HERRMANN, G.
On nonconservative stability problems of elastic systems with slight damping (A) My 152
Response of cylindrical sandwich shells to moving loads (A) D 69
Torsional instability of cantilevered bars subjected to nonconservative loading (A) Ap 83
HERTZBERG, A.
Energy exchanger, a new concept for high-efficiency gas turbine cycles (A) Je 70
HESKESTAD, GUNNAR
Remarks on snow cornice theory and related experiments with sink flows (A) Ja 74
HETENYI, MIKLOS
Awarded an honorary doctoral degree in engineering from the Budapest University of Technical Sciences Ap 118
HETTINGER, CARL F.
Obituary My 179
HICKMAN, CHARLES
Obituary Ja 119
HICKS, TYLER G. (author)
Successful engineering management (BR) O 72
HIGHWAY SYSTEMS
Hardware implications of new surface transportation: Highways—programmed systems (A) Jl 67
HILL, JOHN L.
Grade crossings must go (C) Je 83
HILL, PERCY H.
Techniques of instruction in inventive design (A) F 73
Training 1970's design engineer My 22
HILL, P. W.
Inelastic buckling of rib-cored sandwich cylinders under external hydrostatic pressure (A) S 84
HILLIER, M. J.
Estimation of dynamic forces in very high-speed impact forging (A) Ap 86
Instability strains in plane sheet under biaxial stress (A) S 86
Surface friction and the extremum principles for the load on a plastic-rigid body at the yield point (A) Ap 87
HILLS, FREDERIC W.
Obituary Je 111
HIND, E. C.
Transfer function of the pneumatic capacitance (A) Ap 90
HINIKER, T. G.
Evaluating systems to increase gas turbine capability (A) My 150
HINKLE, R. T.
Branching in design of function-generator linkages (A) N 84
HITZ, JOHN S.
Named 1966 Student Engineer of the Year Ap 118
HIXON, C. W.
Experiments on laminar flow development in rectangular ducts (A) Jl 73
HO, B. P. C.
A procedure for calculating the stresses in a centrifugal impeller with cover disk (A) F 81
HOAD, JOHN G.
Elected president of the American Institute of Consulting Engineers Je 107
HOAGLAND, FRANK O.
Honored for 70 years with Pratt & Whitney Ag 87
Obituary N 119
HODGE, PHILLIP G.
Divisions' opinions sought (C) Je 82
The significance of the concentrated load in the limit analysis of conical shells (A) Ap 82
HODGSON, V. R.
Fluid pressure gradients caused by impact to the human skull (A) Je 73
HODSON, RICHARD
Awarded prize for technical paper at Colorado School of Mines Ag 86
HOESS, J. A.
A discipline for both obtaining and evaluating alternative product concepts (A) Jl 70
HOFFMANN, J. R.
Compact AK process nuclear system (A) My 147
HOKE, HOWARD L.
Obituary F 107
HOLBROOK, R. L.
Effects of nonsymmetry in strip rolling on single-roll drive mills (A) Ap 87
HOLLAND, THOMAS E.
Named corporate fellow of Technical Operations, Inc. D 98
HOLLISTER, S. C. (author)
Engineer-ingenious contriver of the instruments of civilization (BR) S 90
HOLM, F. W.
Heat-loss analysis for deep-diving oceanauts (A) Ja 77
HOLMES, A. B.
High-pressure flueric control components (A) Ag 58
HOLMES, J. W.
The use of computers in balancing offshore compressor units (A) N 82
HOLOGRAMS
White light holograms (A) Je 56
HOLT, KLATE M.
Obituary N 119
HOLZBAUR, FREDERICK J.
Goals of engineering education (D) My 158
HOOBER, D.
Goals of engineering education (C) Ap 94
Profession groups (C) Ja 82
HOOKER, THEODORE F.
Names as assistant director of engineering division at Kodak Park Works of Eastman Kodak Company Je 108
HOPENFELD, J.
Electrochemical machining — prediction and correlation of process variables (A) Je 75
HOPKINS, S. E.
Gas turbine engines in the Royal Canadian Navy prototype hydrofoil vessel (A) My 144
HOPPERS. *See* BINS
HOPPING, ERNEST L.
Obituary Je 111
HOPPMANN, W. H., II
Physical model of a 3-constant isotropic elastic material (A) Ap 83
HORDMANN, GARY J.
Laminar film condensation in two-phase channel flow (A) Ja 81
HORDON, M. J.
Rolling contact deformation of lithium fluoride (A) Mr 79
HORLOCK, J. H.
Methods of predicting the effect of shear flows on the outlet angle in axial compressor cascades (A) F 79
HORNBECK, ROBERT W.
An all-numerical method for heat transfer in the inlet of a tube (A) Ja 76
Non-Newtonian laminar flow in the inlet of a pipe (A) Ja 74
HORNE, W. G.
140-foot radio telescope (A) Jl 65
HOUCK, FRED
Putting vibration to work S 48
HOUCK, R.
Vibration as an asset in design engineering (A) Ag 59
HOUCK, WILLIAM G.
Underwater manipulators Mr 35
HOUGHTON, A. V.
Matrix methods in dimensional analysis (A) Mr 89
HOUSE, M. E.
Internally generated noise from gas turbine engines. Measurement and prediction (A) My 151
HOUSTON, JOHN M.
Energetics 4: thermionic power S 56
HOWARD, ALAN
Obituary Ag 91
HOWARD, C. P.
The single-blow transient testing technique for compact heat exchanger surfaces (A) Je 69
HOWE, EVERETT D.
Elected Fellow of ASME Jl 110
HOWELL, HENRY W., JR.
Obituary S 121
HOWELL, J. R.
Calculation of radiant heat exchange by the Monte Carlo method (A) Mr 81
HRYNISZAK, W.
Special fluid power plants (A) Je 68
HSIEH, JUI SHENG
Four-parameter generalized compressibility charts for nonpolar fluids (A) F 75
HSU, TAO-CHUNG
Effect of the rotation of the stress axes on the yield criterion of prestrained materials (A) Ap 84
HSU, Y. C.
Non-Newtonian flow in infinite-length full journal bearing (A) D 66
HU, W. C. L.
Elastic response of thin spherical shells to axisymmetric blast loading (A) N 85
HUANG-BO, H.
Optimization of some radiators with fins and evolute reflectors (A) Ja 78
HUCK, WILLIAM F.
Elected Fellow of ASME Mr 118
HUEBOTTER, P. R.
Enrico Fermi atomic power plant — irradiation test facility (A) F 71
HUEY, C. T.
A theory for froth flow in horizontal pipes (A) Ja 72
HUGHES, HUNTER
Appointed representative and administrative head of the Washington, D. C. office of Kuljian Corporation Je 108
HUGHES, J. STANLEY
Obituary O 103
HUGHES, M. J.
Plant engineering for a chemical plant (A) Jl 64
HUGHES, W. F.
The MHD hydrostatic thrust bearing—theory and experiments (A) Ag 64
HULL, E. H.
The strength of diamond (A) Ap 87
HULSE, B. T.
Mechanisms of noise generation in a compressor model (A) My 151
HUMAN FACTORS ENGINEERING. *See* BIOTECHNOLOGY
HUMMELL, J. D.
Formation of SO_3 in a noncatalytic combustor (A) Mr 89
HUMPHREY, HUBERT H.
H. H. H. approves (C) D 70
HUNCHER, T. V.
General systematization and unified calculation of five and four-bar plane basic mechanisms (A) O 64
HUNG, H. M.
Heat transfer of thin fins with temperature-dependent thermal properties and internal heat generation (A) Mr 81
HUNLEY, WILLIAM H.
Underwater manipulators Mr 35
HUNTLEY, LAWRENCE R., JR.
Obituary My 179
HUPFER, HAROLD J.
Named operation division director of the production department, Detroit Edison Co. O 100
HUSE, R. A.
Operating experience with control system's no. 1 unit—Hudson Generating Station (A) Ja 72
HUSSEY, GEORGE F., III
Obituary N 119
HUSTIN, J.
Experience gained from a ten-year operation of gas turbine working with blast furnace gas (A) My 146
HUTCHINSON, M.
Special fluid power plants (A) Je 68
HWANG, C.
Some experiments on the vibration of a hemispherical shell (A) D 68
HYDRAULIC FLUIDS
Hydraulic fluids F 49
HYDRAULIC SYSTEMS
Supersonic transport aircraft high-performance fluid power systems and components (A) Ag 60
HYDROFOILS
Safety for high-speed surface transportation S 41
HYDROGEN
Shift of para-hydrogen (A) Ag 44
Slug flow and film boiling of hydrogen (A) Ja 78
HYDROGEN-REMOVAL CELLS
A cell to remove hydrogen (A) D 52
HYDROLOGY. *See* WATER
HYSTERESIS
A distributed-element model for hysteresis and its steady-state dynamic response (A) N 84

I

IGNITION SYSTEMS. *See also* ENGINES, GAS; ENGINES, SPARK IGNITION
IGNITION SYSTEMS
Piezoelectric ignition (A) Ap 73
Solid-state ignition O 30

(A) denotes Abstract; (AC) Author's Closure; (BR) Book Review; (C) Correspondence; (D) Discussion; (Ed) Editorial

IMPACT
Impact on the surface of a compressible fluid (A) ....Ap 80
Longitudinal impact of a semi-infinite, cylindrical, viscoelastic shell (A) Ap 82
IMPELLERS
A practical three-dimensional flow visualization approach to the complex flow characteristics in a centrifugal impeller (A) ....Je 68
INCINERATORS
Chemical analyses of refuse components (A) ....F 76
National Incinerator Conference, 1966 Je 97
Potentials in incineration (A) ....F 76
INDUCERS
A new approach to the reduction of pump cavitation: the hubless inducer (A) ....Jl 73
INDUSTRIAL DEVELOPMENT
Engineering for underdeveloped countries ....Mr 32
Manufacturing costs (C) ....N 88
INDUSTRIAL FILMS F 95; Je 89; N 99; D 81
Engineering Film Festival to be held in 1967 ....Ag 73
INDUSTRY
The industrial economy is "go"—forecasts predict continued growth and record advances for the year 1966 ....F 88
INERTIA
Effects of longitudinal inertia upon the parametric response of elastic columns (A) ....Ap 83
INFORMATION RETRIEVAL
Information retrieval systems and mechanical engineering data (A) ....Ag 63
INFORMATION HANDLING SERVICES, INC. (IHS)
An international supermarket for engineers (A) ....Je 88
INGHAM, J. M.
Applications of linear and rotary motion hydrostatic bearings (A) ....Ag 61
INGRAHAM, ARTHUR K.
Elected Fellow of ASME ....Ag 88
INHABER, H.
Coefficient of friction in cold rolling (A) Je 76
An empirical equation for the strain-rate effect on roll separating force in cold rolling (A) ....Je 75
INSTRUMENTS. *See also* ENGINE ANALYZERS
Instruments and apparatus supplement on leak detection and leakage measurement (A) ....Ap 110
White noise (A) ....F 59
INSTRUMENTS, MEASURING
Coordinate measuring machine (A) ....D 47
English/metric micrometer (A) ....S 79
Fiber optic and strain probe mass-flux meters for gas-solids suspensions (A) Jl 74
Fluid density and Clausius-Mosotti F 64; (C) ....Ap 95
Homemade calibrator (A) ....My 136
The imperfect vacuum (A) ....D 46
Liquid metal level probes (A) ....Je 54
Magnetic reaction analyzer—a new tool for maintenance, inspection and control (A) ....Jl 66
Measuring fluid films (A) ....My 141
The other uses of sound (A) ....Je 58
Transducers askew (A) ....F 55
INSTRUMENTS, TEMPERATURE MEASURING
A new method of burnout detection (A) Ja 75
Solder thermometer (A) ....S 67
ION ENGINES. *See* ROCKETS
IPSEN, P. G.
Boiler-turbine coordination during start-up and loading of large units (A) ....Ja 71
Elected Fellow of ASME ....S 118
IQBAL, M.
Influence of tube orientation on combined free and forced laminar convection heat transfer (A) ....Ja 80
IRON AND STEEL INDUSTRY
Basic oxygen furnaces (A) ....Je 61
Use of natural gas in the cupola (A) Mr 86
IRVINE, HARRY, JR.
Obituary ....O 103
IRVINE, JOHN W.
Obituary ....F 107
IRWIN, ARTHUR S.
Appointed project manager in charge of marketing, manufacturing, and continued development of patented MRC-TRW Lamiflex bearing, Marlin-Rockwell Company ....O 101
ISOLATORS
Servo-controlled pneumatic isolators—their properties and applications (A) F 72
IWAN, W. D.
A distributed-element model for hysteresis and its steady-state dynamic response (A) ....N 84
Steady-state response of the double bilinear hysteretic model (A) ....Ap 82
IVES, D. C.
A portable digital computer for engine indicating and analysis (A) ....Je 65

J

JACKMAN, JOHN T., JR.
Elected Fellow of ASME ....S 118
JACKSON, K. L.
Development and test of the General 70-E truck for BARTD (A) ....Jl 72
JACKSON, T. W.
Heat exchange in fluid-dense particle moving beds (A) ....N 87
JACKSON, Y. T.
Elastic response of thin spherical shells to axisymmetric blast loading (A) N 85
JAFFE, MYRON I.
Designing powder metallurgy parts ....N 53
Guidelines for designing powder metallurgy parts (A) ....Ag 56
JAHNCKE, PAUL F.
Obituary ....F 107
JAMES, D. D.
Numerical analysis of the gas-lubricated spiral-groove thrust bearing-compressor (A) ....Ag 63
JANIS, J. M.
Development and operating experience of the ML-1 mobile nuclear power plant (A) ....My 149
JANSEN, W.
Aerodynamic and thermodynamic design of cryogenic radial-inflow expanders (A) ....F 76
Supersonic expansion in radial-inflow turbine nozzle vanes (A) ....Ja 68
JAPPE, KURT W.
Obituary ....My 179
JAQUES, WILLIAM H.
Received a "Distinguished Alumnus" award at Ohio State University ....S 114
JASPER, NORMAN HANS
Elected Fellow of ASME ....S 118
JAUMOTTE, A. L.
Experience gained from a ten-year operation of gas turbine working with blast furnace gas (A) ....My 146
JEFFERSON, T. B.
Heat transfer from an oscillating horizontal wire to water and ethylene glycol (A) ....Ja 80
JEGLUM, N. L.
The new challenge: fluid amplifiers ....Ja 36
JEKAT, W. K.
Bearings, seals, and rotor dynamics of turboexpanders and similar high-speed machinery (A) ....F 75
A new approach to the reduction of pump cavitation: the hubless inducer (A) Jl 73
JENKS, STEPHEN M.
Elected Fellow of ASME ....Mr 119
JENS, W. H.
Enrico Fermi atomic power—plant irradiation test facility (A) ....F 71
JENSEN, D. E.
Effects of prior creep exposure on 1400 F strength of Inco 713 nickel-base alloy (A) ....Ap 86
JENSEN, P. W.
Application of the method of turned velocities and the acceleration of the instant center to determine velocities and accelerations in complex mechanisms (A) ....O 62
JET ENGINES. *See* GAS TURBINES
JET PUMPS. *See* PUMPS
JETS
Peripheral jets in proximity of the ground (A) ....S 85
Temperature and scale effects upon cavitation and flashing in free and submerged jets (A) ....F 81
Two-phase turbulent flow in a plane jet (A) ....D 67
JETT, A. VICTOR
Design of water-jet pumps, part 2—jet-pump system characteristics (A) ....Ja 73
JOHNS, CYRUS NEWKIRK
Received Missouri Honor award for distinguished service in engineering ....S 116
JOHNSON, CHARLES H.
Obituary ....D 103
JOHNSON, HAROLD A.
Elected Fellow of ASME ....Je 109
JOHNSON, H. L.
Motion analysis of flexible cam-follower systems (A) ....D 63
Path generation in space (A) ....F 72
JOHNSON, J. L.
Relationship of prior creep exposure to strength of wrought Udimet 700 nickel-base alloy (A) ....Ap 85
JOHNSON, RAY C.
Application of number synthesis to practical problems in creative design (A) F 72
JOHNSON, V. E., JR.
A full-scale, lighter-than-air submarine simulator system (A) ....Ap 80
JOHNSON, W.
Some experimental results concerning spread in the rolling of lead (A) Ap 86
JOHNSTON, J. AMBLER
Goals of engineering education (D) My 155
JOHNSTON, J. P.
Effects of wall shape on flow regimes and performance in straight, two-dimensional diffusers (A) ....Jl 75
Laminar boundary layer on a rotating circular arc blade (A) ....F 80
Performance and design of straight, two-dimensional diffusers (A) ....Jl 73
JOINTS
Development and performance of the USS improved buttress-thread oil-well tubing joint (A) ....N 79
Nuts and bolts (A) ....Ag 48
Pierce and tap, a gun (A) ....Ap 68
Rules of thumb (A) ....Ap 67
JOINTS, BELLOWS
Restraint and movement (A) ....S 76
JOLLY, THOMAS D.
Obituary ....O 103
JONACH, F. L.
Development and testing of wear-reducing marine diesel cylinder lubricants (A) ....Je 64
JONES, D. R.
Field performance of ashless detergent gas engine oils (A) ....Je 66
JONES, H. F.
Application of gas bearings to closed-system Brayton-cycle turbomachinery—recent accomplishments and potential problem areas (A) ....My 147
JONES, HAROLD L.
Obituary ....Je 111
JONES, I. W.
Effect of structural damping on the forced vibrations of cylindrical sandwich shells (A) ....Ap 81
JONES, J. J.
Application of aerospace procedures to civilian system selection (A) ....F 77
JONES, J. P.
Axially symmetric motions of a two-layered Timoshenko-type cylindrical shell (A) ....D 68
JONG, I. C.
On nonconservative stability problems of elastic systems with slight damping (A) ....My 152
JOSEPH, D. D.
Lubrication of a porous bearing Reynold's solution (A) ....D 69
JOURDIN, WILLIS W.
Obituary ....D 103
JUDGE, THOMAS J.
Elected vice-president of ASME ....N 115
JUHASZ, STEPHEN I.
Elected Fellow of ASME ....Je 109
JUNKHAN, G. H.
Effects of free-stream turbulence and pressure gradient on flat-plate boundary-layer velocity profiles and on heat transfer (A) ....N 87
JUSTICE, FELIX CALVIN, JR.
Elected Fellow of ASME ....Jl 110

K

KABLE, C. P.
Orienting and training the design engineer (A) ....Jl 67
KACZMAREK, J.
Ultrasonic grinding economics (A) ....Je 75
KAISER, ELMER R.
Chemical analyses of refuse components (A) ....F 76
KALMYKOW, A.
Legal implications of noise in equipment for the plant and office (A) ....Jl 68
KALNINS, A.
Deformation of open spherical shells under arbitrarily located concentrated loads (A) ....Ap 83
On fundamental solutions and Green's functions in the theory of elastic plates (A) ....Ap 83
KAMAL, M. M.
Separation in the flow between eccentric rotating cylinders (A) ....Jl 74

KANNEL, J. W.
Determination of stresses in rolling-contact elements (A) ..... D 65

KARASSIK, IGOR J.
Has won first worldwide "Henry" Award of the Worthington Corporation ..... S 116

KASHER, DONALD R.
Obituary ..... Ag 91

KASSIR, M. K.
Three-dimensional stress distribution around an elliptical crack under arbitrary loadings (A) ..... S 86

KATAYAMA, K.
Discharge coefficients of fire nozzles (A) ..... JI 75

KATLIN, J. M.
Low cycle fatigue crack propagation characteristics of high-strength steels (A) ..... Je 72

KATSANIS, THEODORE
Use of arbitrary quasi-orthogonals for calculating flow distribution in a turbomachine (A) ..... Ja 69

KATZ, S.
Fluidic operation on pressure signals (A) ..... F 76

KAUFMAN, B.
Design of heart valves ..... JI 22
Design of prosthetic heart valves (A) Ap 89

KAYS, W. M.
Heat transfer in parallel rod arrays (A) ..... Mr 80

KELEMENCKY, MONROE R.
Appointed chief engineer of Sperry Products Division of Automation Industries, Inc. ..... Je 107

KELLER, CURT
Elected Fellow of ASME ..... S 118

KELLER, KAUFMAN THUMA
Obituary ..... Ap 121

KELLER, R. E.
Study of spatial mechanisms by electronic analog computer (A) ..... F 72

KELLEY, R. W.
Development of a high-temperature molten lithium pump (A) ..... Ja 75

KELLNER, A. D.
Recruiting and keeping design engineers (A) ..... Ag 63

KELLY, R. M.
The use of computers in balancing offshore compressor units (A) ..... N 82

KELNHOFER, W. J.
Design considerations for marine gas turbine ducting (A) ..... My 143

KEMP, W. E.
Specialized covered hopper cards for the processing industries (A) ..... Mr 85
A standardized covered hopper car for special situations (A) ..... F 74

KENDALL, D. P.
Effect of strain rate on yielding in high-strength steels (A) ..... Ap 85

KENIG, M. J.
Shock waves produced by small stress increments in annealed aluminum (A) ..... N 84

KENNEDY, G. R.
10,000,000 hours of gas turbine operation (A) ..... My 147

KENNEDY, JOHN J.
Obituary ..... N 119

KENNEDY, THOMAS A.
Named vice-president-executive assistant, Zurn Industries, Inc. ..... O 98

KENNEDY, VERNE C., JR.
Appointed vice-president for contract research, University of Oklahoma ..... S 116
Resumed duties as executive director of the University of Oklahoma Research Institute ..... Je 107

KENT, CLARENCE H.
Obituary ..... S 122

KENT, ROBERT W.
Obituary ..... JI 112

KERR, A. D.
Effect of lateral hydrostatic pressure on the instability of elastic solids, particularly beams and plates (A) ..... S 86

KESSLER, G. W.
A new regenerative air heater for power boilers (A) ..... Ja 71
New regenerative air heater ..... S 45; (AC) ..... N 89

KESSLER, GERALDINE E.
Obituary ..... My 179

KESSLER, LEWIS HANFORD
Recipient of a Distinguished Service Citation by the University of Wisconsin ..... Ag 86

KEZIOS, S. P.
Analysis of two-phase, one-component stratified flow with condensation (A) ..... Mr 81

KIDD, GEORGE EDWIN
Elected Fellow of ASME ..... My 176

KINEMATICS
Acceleration analysis of spatial four-link mechanisms (A) ..... Mr 90
Acceleration analysis of spatial linkages using axodes and the instantaneous screw axis (A) ..... O 64
Analog simulation of rigid link mechanisms (A) ..... O 66
Analysis of the time-dependence of multifreedom mechanical systems in relative coordinates (A) ..... O 63
The analytical design of an adjustable four-bar linkage for variable straight-line motions (A) ..... D 63
An analytical method of synthesizing mechanisms based on roulette theory (A) ..... O 65
An analytical study of the dynamics of an elastic linkage (A) ..... F 72
Application of the method of turned velocities and the acceleration of the instant center to determine velocities and accelerations in complex mechanisms (A) ..... D 62
Application of the theory of screw axes to linkages which disobey the Kutzbach-Grubler constraint criterion (A) ..... D 63
Branching in design of function-generator linkages (A) ..... N 84
Circular and elliptical function of generation by means of a cone and cable drive (A) ..... D 63
Computer-aided design of window regulator mechanisms (A) ..... D 60
Computer-aided kinematic synthesis of a general planar mechanism (A) ..... D 60
Design of the spherical drag-link mechanism (A) ..... O 63
Determination of equilibrium configurations of spring-restrained mechanisms using (4 x 4) matrix methods (A) ..... O 63
Dynamic force analysis of spatial linkages (A) ..... D 63
Four multiple separated positions in coplanar motion (A) ..... O 63
General systematization and unified calculation of five and four-bar plane basic mechanisms (A) ..... O 64
High-order plane motion theories in kinematic synthesis (A) ..... O 66
Irregular motion of rotation best produced by elliptical gears (A) ..... D 62
Jump conditions in plane linkage analysis (A) ..... Ag 56
Kinematic synthesis of plane curves (A) ..... O 64
The Mayor-Mises Method (A) ..... Ag 56
Motion analysis of flexible cam-follower systems (A) ..... D 63
Ninth Mechanisms Conference, 1966 D 90
On the screw axes and other special lines associated with spatial displacements of a rigid body (A) ..... O 63
Optimum design of curve-generating linkages with inequality constraints (A) O 63
Path generation in space (A) ..... F 72
Precision six-link dwell mechanisms (A) ..... N 84
The selection of Watt's four-bar straight-line mechanisms (A) ..... D 62
Simplified analysis of the bent crank oscillator mechanism (A) ..... O 66
Slider-crank charts for offset: crankshafts (A) ..... D 62
Some applications of graph theory to the structural analysis of mechanisms (A) ..... O 64
Some remarks on higher curvature theory (A) ..... O 64
Structural permutations of flexible link mechanisms (A) ..... N 84
Study of spatial mechanisms by electronic analog computer (A) ..... F 72
A survey of three-dimensional mechanisms with one general constraint (A) ..... D 61
Synthesis of plane linkages with use of the displacement matrix (A) ..... O 65
Synthesis of spherical linkages with use of the displacement matrix (A) ..... O 64
Theory of catenoidal-pulse motion and its application to high-speed cams (A) D 63
Torsional vibrations in the shafts of linkage mechanisms (A) ..... O 63
Type synthesis of plane linkages (A) O 64
Use of the collineation pole circle in the synthesis of four-bar mechanisms (A) ..... D 63

KING, A. H.
Electron microscopy of stress-induced structural alterations near inclusions in bearing steels (A) ..... Mr 79

KING, RALPH J.
Operating dynamics and computer simulation ..... Ap 60

KINNAVY, ROBER
Design of water-jet pumps, part 1—experimental determination of optimum design parameters (A) ..... F 79
Design of water-jet pumps, part 2—jet-pump system characteristics (A) Ja 73

KINNEY, R. B.
Turbulent pipe flow of an internally heat generating fluid (A) ..... Ja 78

KINNEY, ROBERT C.
Named manager of the mechanical petrochemical department, Bovay Engineers, Inc. ..... O 98

KIRK, W. B.
High-speed train operation (A) ..... F 75

KIRKBY, NORMAN O.
Obituary ..... My 179

KIRKHAM, E. E.
Linear and rotary resolvers in position-control systems (A) ..... JI 68

KISS, I. S.
Computer-aided kinematic synthesis of a general planar mechanism (A) ..... D 60

KITZINGER, D. G.
Matrix methods in dimensional analysis (A) ..... Mr 89

KJELLGREN, P. S.
Development of electric-hydraulic turbine governors in North America (A) ..... Ja 73

KLEIN, E. J.
Hydraulic analogy to compressible gas-flow — application and experimental techniques (A) ..... JI 74
Hydraulic analogy to compressible gas flow—theory and limitations (A) ..... JI 73

KLEIN, G. HAROLD
Engineering and ethics (C) ..... Je 83

KLEM, R. L.
Energetics 3: thermoelectric power ..... Ag 36

KLIMENT, WILLIAM P.
Elected Fellow of ASME ..... Ja 117

KLINE, S. J.
Performance and design of straight, two-dimensional diffusers (A) ..... JI 73

KLINE, STEPHEN (author)
Similitude and approximation theory (BR) ..... Mr 93

KNAUSS, W. G.
Stresses in an infinite strip containing a semi-infinite crack (A) ..... S 84

KNECHT, A. WILSON
Elected to the Council of the American Institute of Consulting Engineers Je 107

KNECHT, HARRY
Obituary ..... Ag 91

KNIGHT, B. A.
Motion analysis of flexible cam-follower systems (A) ..... D 63

KNIGHT, SID
New Beta engine/compressor analyzer (A) ..... Mr 79

KNIPPING, RAINER H.
Obituary ..... N 119

KNOWLES, J. R., JR.
Prediction of pressure loss during two-phase horizontal flow in two-inch pipe (A) ..... O 67

KNUDSEN, L. K.
Cavitation damage studies with rotating disk in water (A) ..... JI 75

KOBAYASHI, A. S.
Structural analysis of an arteriole by the direct stiffness method (A) ..... Je 73

KOBAYASHI, R.
Effect of cavitation on the discharge coefficient of standard flow nozzles (A) ..... JI 75

KOBAYASHI, S.
Effect of anisotrophy and work-hardening characteristics on the stress and strain distribution in deep drawing (A) ..... Je 75

KOCI, L. F.
Lateral loading between locomotive truck wheels and rail due to curve negotiation (A) ..... F 75

KOENIG, H. A.
A unified approach to cylindrical and spherical elastic waves by method of characteristics (A) ..... Ja 152

KOH, J. C. Y.
Nonsimilar boundary-layer heat transfer of a rotating cone in forced flow (A) ..... Ja 79

KOLAR, ANDREW K.
Appointed district manager for Link-Belt Company ..... Ap 117

KOPS, L.
Ultrasonic grinding economics (A) ..... Je 75

(A) denotes Abstract; (AC) Author's Closure; (BR) Book Review; (C) Correspondence; (D) Discussion; (Ed) Editorial

KOVATS, A.
Investigation of volute-impeller interaction in pumps (A) ..... JI 74
KOZACKA, JOSEPH S.
Obituary ..... JI 112
KRALL, K. M.
Turbulent heat transfer in the separated, reattached, and redeveloped regions of a circular tube (A) ..... Ja 77
KRAM, HARVEY
Named vice-president in charge of operations, Leviton Manufacturing Company ..... Je 108
KRAMAROW, N. W.
Large prestressed concrete vessels for deep-submergence testing (A) ..... Ap 79
KRAMBACK, F. J.
Forced-convection heat transfer to superheated steam at high-pressure and high Prandtl numbers (A) ..... Ja 76
KRAUS, CHARLES E.
Variable-speed drives 1: mechanical ..... Je 32
KRAUSE, I.
Measurement of Poisson's ratio for viscoelastic materials in uniaxial compression (A) ..... F 77
KRAUSSER, JOHN W.
Elected Fellow of ASME ..... N 117
KRECHEL, J. J.
Operating experience with the Babcock & Wilcox regenerative air heater (A) N 85
KRELLEN, HARRY I.
Obituary ..... O 103
KRIEGER, R. J.
The MHD hydrostatic thrust bearing—theory and experiments (A) ..... Ag 64
KROEHLE, THOMAS P.
Elected to the Board of Directors and made vice-president of marketing, Brown Fintube Company ..... D 99
KU, T. C.
Applying the wear model to design problems (A) ..... S 82
KU, T. C.
An engineering model for wear (A) ..... S 82
Special considerations relating to the engineering model for wear (A) ..... S 83
KUHL, O. A.
Gamma radiation source and irradiator design (A) ..... F 71
KUHN, JOHN
Obituary ..... Je 111
KUMPITSCH, R. C.
Pumps for liquid-metal flight controls (A) ..... JI 75
KUNICA, SERGE
Servo-controlled pneumatic isolators—their properties and applications (A) F 72
KUNKLE, R. G.
Calorimetric evaluation of heat transference by Admiralty condenser tubes (A) ..... Mr 85
KUO, K. L.
Graphical methods for determining operating points of a fan-motor assembly (A) ..... Ja 74
KYBURZ, WALTER W.
Obituary ..... Ap 121

L

LADENDORF, C. K.
Operating experience with the world's largest package boiler (A) ..... Ja 71
LAIRD, ALTON WILSON
Obituary ..... My 179
LAKSHMIKANTHAM, C.
Optimum thin-wall pressure vessels of anisotropic materials (A) ..... S 85
LAKSHMINARAYANA, B.
Methods of predicting the effect of shear flows on the outlet angle in axial compressor cascades (A) ..... F 79
LALL, P. S.
Dynamic analysis and experimental measurements for a single-fluid heat exchanger (A) ..... Ja 81
LAMB, J. P.
A comparison of turbulent lubrication theories and a solution of Constantinescu's equation for a finite-length bearing (A) ..... S 87
LAMBORN, JAMES D.
Obituary ..... Mr 121
LAMONT, J. G.
In-the-door mechanical temperature central system for railroad cars (A) ..... F 74
LAMPS
Lamp with two lives (A) ..... S 75
LANDERS, W. S.
Trends in steam station design affecting air pollution (A) ..... N 86
LANG, FREDERIC A.
Revise Standard? (C) ..... S 88
LANG, JOHN B.
Obituary ..... Ag 91
LANGE, W. A.
Strength of skin and its measurement (A) Ap 88
LANGER, B. F.
Low-cycle fatigue of large-diameter bolts (A) ..... O 68
LANGUAGE TRANSLATION
Automatic translation of languages ..... My 112
LANNING, J. G.
Development of a glass-ceramic axial-flow rotary regenerator (A) ..... Je 70
LARGE, J. B.
Mechanisms of noise generation in a compressor model (A) ..... My 151
LARKIN, W. H.
Engineer-ingenious contriver of the instruments of civilization (BR) ..... S 90
LASERS
Hues of memory (A) ..... S 66
Laserplasma (A) ..... S 75
Lasers at CERN (A) ..... Je 61
Lasers for measurement (A) ..... Ag 62
Machining with lasers (A) ..... Ag 57
Powerful laser ray (A) ..... O 59
Shock and lasers (A) ..... Ap 70
Thin red line (A) ..... F 58
LATCHES
Methods of latching impacting bodies (A) D 60
LATHAM, ALLEN, JR.
Elected vice-president of ASME ..... N 115
LAURIE, ALBERT
Obituary ..... N 119
LAVERTY, W. F.
Film boiling of saturated nitrogen flowing in a vertical tube (A) ..... Ja 79
LAW
The Moon belongs to everyone: UN Committee tackles problem of law for extraterrestrial activity ..... N 94
LAWRENCE, W. T.
Heat transfer effects on the developing laminar flow inside vertical tubes (A) Mr 80
LAZAN, BENJAMIN J.
Obituary ..... O 103
LEAD
Some experimental results concerning spread in the rolling of lead (A) ..... Ap 86
LEAK DETECTION AND MEASUREMENT
Instrument and apparatus supplement on leak detection and leakage measurement (A) ..... Ap 110
LECHNER, T. A.
Feasibility study of a fluidic control subsystem (A) ..... Mr 82
LEDERER, JEROME
Safety for high-speed surface transportation ..... S 41
LE DUC, RICHARD J.
Obituary ..... F 107
LEE, SHAO-LIN
Axisymmetrical turbulent swirilng natural-convection plume: part 1—theoretical investigation (A) ..... S 85
Axisymmetrical turbulent swirling natural-convection plume: part 2—experimental investigation (A) ..... O 69
LEEN, MORRIS W.
Goals of engineering education (D) ..... My 157
LEES, B.
Insulated steel chimneys avoid corrosion and smut emission (A) ..... Mr 87
LE FEBVRE, E. H.
Thermal modeling applied to animal systems (A) ..... Mr 80
LEHMAN, AUGUST F.
Influence of free air bubbles on cavity volumes and the associated noise signatures (A) ..... Ja 73
LEINEN, ROBERT E.
Obituary ..... Ap 121
LEMEZIS, S.
Selection and design of closed feedwater heaters (A) ..... F 70
LEONARD, R. R.
A new regenerative air heater (C) ..... N 89
LEOPOLD, A. CARL
Measurement of sap flow in leaf petioles by a thermal method (A) ..... Ja 76
LESSEN, MARTIN
Awarded National Science Foundation senior postdoctoral fellowship ..... F 105
LEUNG, A. T.
Simultaneous radiation, conduction, and convection in a spectrally selective, emitting, and scattering porous bed (A) Mr 81
LEUNG, P.
Analysis of cycle with first-stage high-pressure turbine extraction steam for auxiliary turbine drives (A) ..... N 86
LEUNG, P. (*Continued*)
Cycles for supplying steam to desalting evaporators of dual-purpose power-generation plants (A) ..... Ja 71
LEVESQUE, GEORGE N.
Elected Fellow of ASME ..... Je 109
LEVINE, ROBERT J.
Fluid density and Clausius-Mosotti (C) Ap 95
LEVITT, A. P.
Whisker-strengthened metals (A) ..... JI 69
LEVY, M. J.
A modified Gibbs experiment (A) ..... F 76
LEVY, S.
A computer program for determining the effect of design variation on service in railroad wheels (A) ..... F 73
LEWIS, D. W.
A designer's look at the Mariner IV's temperature-control subsystem (A) ..... JI 69
Kinematic synthesis of plane curves (A) O 64
LEWIS, O. L.
Deep sea mooring ..... S 51
Design of a test-system for deep-ocean research (A) ..... Ap 80
LEWIS, W. A., JR.
Calibration of continuous conveyor scales (A) ..... JI 65
LICH, R. L.
Progress in railway mechanical engineering (A) ..... F 74
LICHT, L.
An experimental study of the stability of an externally pressurized gas-lubricated thrust bearing (A) ..... My 152
Preliminary experiments with foil bearings (A) ..... Mr 84
LICHTY, LESTER C.
Elected Fellow of ASME ..... S 118
LIENHARD, J. H.
Temperature and scale effects upon cavitation and flashing in free and submerged jets (A) ..... F 81
LIN, T. H.
Slip strains and stresses in polycrystalline aggregates under cyclic load (A) ..... My 152
LINDAN, O.
Design problems in the artificial kidney (A) ..... Ag 58
LINDEMAN, R. P.
Today's gas engine oils (A) ..... N 83
LINDER, CLARENCE H.
Elected Fellow of ASME ..... Mr 119
Elected president of Engineers Joint Council ..... Je 107
LINDLEY, ROY W.
Obituary ..... Je 111
LINDSAY, GEORGE L.
Obituary ..... Ap 121
LINDSAY, RUSSELL F.
Named as manager of sales, Erie City Iron Works ..... O 98
LINKAGES. *See* KINEMATICS
LINKER, JOHN I.
Obituary ..... F 107
LINTON, WILLIAM H.
Named division engineer of hydraulics, Birdsboro Corporation ..... O 98
LINVILLE, THOMAS M.
Elected president of the National Society of Professional Engineers ..... Ag 87
LIPSCOMB, CLARENCE R.
Obituary ..... O 103
LIQUID METALS
Liquid metal level probes (A) ..... Je 54
LITANT, I.
Conductive plastics (A) ..... Ag 60
Conductive plastics ..... O 46
LITHIUM FLUORIDE
Rolling contact deformation of lithium fluoride (A) ..... Mr 79
LITTLE, R. Q.
Today's gas engine oils (A) ..... N 83
LITTMAN, W. E.
Propagation of contact fatigue from surface and subsurface origins (A) ..... Mr 79
LIVERMORE, D. F.
Determination of equilibrium configurations of spring-restrained mechanisms using (4 x 4) matrix methods (A) ..... O 63
LIVINGSTONE, JOHN E.
Obituary ..... N 119
LOBINGER, GEORGE D.
Goals of engineering education: part 4—positions and comments ..... Mr 62
LOCH, NORMAN E.
Engineer idol needed (C) ..... Ap 95
LOCOMOTIVES. *See also* TRANSIT SYSTEMS
New locomotive on test (A) ..... Ja 66
LOHMANN, R. P.
An investigation of the influence of the boundary layers on the performance of centrifugal-compressor impellers (A) Ja 72

LOHMEIER, A.
Carbon-steel, feedwater-heater, tube-to-tube sheet joints (A) ....Ja 72
LOIACONO, J.
The plate heat exchanger (A) ....N 83
LOLL, M.
Heat transfer and pressure distribution in open-cavity flow (A) ....Ja 77
LONG, D. A.
Weighing the value of promotions and monetary incentives (A) ....Ag 60
LOO, TA-CHENG
Interaction of critical pressures and critical concentrated loads acting on shallow spherical shells (A) ....My 152
LORENZEN, A. M.
Deep sea mooring ....S 51
Design of a test system for deep-ocean research (A) ....Ap 80
Evolution of gas reactor steam generators (A) ....F 71
LORENZINI, ROBERT A.
Elected member of Board of Directors, Foster Wheeler Corporation ....D 99
LOUER, HAROLD F.
Obituary ....Je 111
LOWE, I. R. G.
Prediction of hydrostatic gas journal bearing performance (A) ....Ag 65
LOWEN, G.
The Mayor-Mises Method (A) ....Ag 56
LOYOLA, JORGE LUQUE
Obituary ....My 179
LUBKIN, JAMES L.
Power transmission by multiple metal bolts on imperfect pulleys (A) ....F 72
LUBRICANTS AND LUBRICATION. *See also* BEARINGS
A comparison of the performance of self-lube and conventionally lubricated reciprocating air compressors (A) ....Je 64
A comparison of turbulent lubrication theories and a solution of Constantinescu's equation for a finite-length bearing (A) ....S 87
Development and testing of wear-reducing marine diesel cylinder lubricants (A) ....Je 64
Elastohydrostatic lubrication of circular plate thrust bearings (A) ....Ag 65
Entrance space in rolling contacts (A) ....Mr 85
An experimental study of annular flows with applications in turbulent film lubrication (A) ....D 65
Factors affecting the viscosity of lubricants at low temperature (A) ....Jl 67
Field performance of ashless detergent gas engine oils (A) ....Je 66
Gas squeeze-film stiffness and damping torques on a circular disk oscillating about its diameter (A) ....D 64
Hydrodynamic lubrication of partial porous metal bearings (A) ....Mr 85
Improved method for numerical solutions of the general incompressible fluid film lubrication problem (A) ....S 87
Influence on the tooth surface deformation upon the capacity of hydrodynamically lubricated spur gears (A) ....Ag 64
Lube info needed (C) ....N 88
Lubricant effects on fatigue in a stationary concentrated contact under vibratory loading (A) ....Mr 79
Lubrication of a porous bearing—Reynolds' solution (A) ....D 69
Lubrication with iodine (A) ....Ja 60
Measurement of boundary viscosity at metal-deformation pressure (3000 atm, 20 tons/sq in) (A) ....O 67
Non-Newtonian flow in infinite-length full journal bearing (A) ....D 66
The numerical solution of a special Hill equation in lubrication theory (A) ....S 87
On the field of temperatures in lubricating films (A) ....D 64
On the possibilities of magnetogasdynamic lubrication (A) ....D 66
Preventing spread of lubricants ....D 41
Preventing the migration of lubricants (A) ....Jl 67
Rolling of a cylinder on an elastic film (A) ....D 60
Testing new lubricants (A) ....Je 61
A theory for turbulent fluid films and its application to bearings (A) ....D 64
A theory of lubrication by microirregularities (A) ....Mr 85
Today's gas engine oils (A) ....N 83
The web and the hub (A) ....Ap 66
LUCHTER, S.
Application of closed-cycle gas turbine system technology to mobile nuclear power plants (A) ....My 147
LUCK, C. F., JR.
Machining with lasers (A) ....Ag 57
LYMAN, J.
Reversing normal strains produced by rolling contact load (A) ....Ag 64
LYONS, W. J.
Effect of fiber surface roughness on cohesion of textile assemblies (A) ....Je 76
LYSEN, J. C.
Experimental investigation of a magnetically balanced arc in a transverse argon flow (A) ....Mr 86
LYSHOLM, A.
Fundamentals of a new screw engine (A) ....Jl 75

M

MACBRIAR, WALLACE N.
Obituary ....F 107
MACDONALD, GEORGE
Named superintendent of estimating, planning, and personnel division of construction and maintenance department, Detroit Edison Co. ....O 100
MACFARLANE, WARREN C.
Obituary ....F 107
MACGREGOR, R. K.
Approximate solutions for a nonlinear laminar shear flow on a flat plate (A) ....Jl 74
MACH, R. L.
Measurement of Poisson's ratio for viscoelastic materials in uniaxial compression (A) ....F 77
MACHINE TOOLS
Combination machine tool (A) ....Jl 60
Die sinking machine/vertical mill (A) ....Mr 76
From Russia with tools (A) ....S 73
Machine tool production: in the Russian style (A) ....My 141
New screws (A) ....N 70
Numerically controlled (A) ....Jl 60
Selecting transmissions for precision positioning applications (A) ....Ag 60
Special bearings (A) ....Ja 57
Tape-controlled drilling machine (A) ....N 76
MACKE, H. J.
Traveling-wave vibration of gas turbine engine shells (A) ....Ja 69
MADJCZYK, L. A.
Electrocoating process: corrosion protection of highly profiled designs (A) ....Ag 62
MAGNESIUM
New stronger magnesium alloy (A) ....D 58
MAGNETIC FORMING. *See* METAL FORMING
MAGNETIC REACTION ANALYZER. *See* INSTRUMENTS, MEASURING
MAGNETIC TAPE
Relaxation of internal forces in a wound reel of magnetic tape (A) ....Ap 82
MAGNETOHYDRODYNAMICS. *See also* ARCS
Energetics 6: magnetohydrodynamics power ....N 38
Magnetohydrodynamic effects in composite bearings (A) ....O 67
The MHD hydrostatic thrust bearing—theory and experiments (A) ....Ag 64
Propects for nuclear reactor-MHD commercial power production (A) ....My 149
Saddle magnet: a hurdle in MHD ....Ag 41
MAGNETOSOLIDMECHANICS
Transport processes in magnetosolidmechanics (A) ....N 84
MAGNETS AND MAGNETISM. *See also* CRYOGENICS
Potential of superconducting magnets in design engineering (A) ....S 83
The role of cryogenics in the application of superconductive magnets (A) ....Jl 68
Saddle magnet: a hurdle in MHD ....Ag 41
MAHER, ROBERT L.
Bilgewater! (C) ....Ja 82
MAIALE, A. J.
Computerized weighing of railroad freight cars coupled in-motion (A) ....Jl 72
MAINTAINABILITY
Reliability and maintainability (Ed) ....F 21
Reliability and Maintainability Conference, 1966 ....S 106
Relability and maintainability: part 1—the basic problem ....F 22
Reliability and maintainability: part 2—automotive: the Ford reliability program ....Mr 46
Reliability and maintainability: part 3—aviation: DC-9 design features ....Ap 56
Reliability and maintainability: part 4—military: the logistics challenge ....My 125
Reliability and maintainability: part 5—space: manned interplanetary travel ....Je 44
MAINTENANCE
Design, start-up, and maintenance of chemical plants (A) ....Jl 66
Maintenance labor utilization (A) ....Jl 65
Preventive maintenance (A) ....Jl 65
MAINTENANCE *(Continued)*
Statistical methods facilitate maintenance planning and scheduling (A) ....N 79
MAKIELSKI, J. P.
Extending the capabilities of experienced design engineers (A) ....S 83
MALANOSKI, S. B.
Experiments on an ultrastable gas journal bearing (A) ....D 66
Spherical squeeze-film hybrid bearing with small steady-state radial displacement (A) ....Ag 64
MALCOLM, D. H.
Energetics 2: electrogasdynamic power ....Jl 46
MALLOY, G. T.
The strength of diamond (A) ....Ap 87
MANAGEMENT
Alternate structural arrangements of the design engineering department (A) ....S 82
Controlling the process of work in a design engineering department (A) ....S 82
Derivation of business opportunities through technical planning (A) ....Ag 63
Extending the capabilities of experienced design engineers (A) ....S 83
Joint Engineering Management Conference, 1966 ....N 108
Management of engineering changes (A) ....Jl 70
A new look at manufacturing start-up, planning, and control (A) ....My 153
Organizing a systematic salary program for the engineering department (A) ....Ag 61
Planning for and budgeting the annual workload (A) ....Jl 67
Recruiting and keeping design engineers (A) ....Ag 63
Requesting capital funds ....D 32
Risk management ....O 18
Risk management—insurance plus assurance (A) ....Jl 65
Successful engineering management (BR) ....O 72
Teamwork—the essential ingredient to performance (A) ....Ja 87
Technical forecasting as a basis for planning (A) ....Jl 68
Weighing the value of promotions and monetary incentives (A) ....Ag 60
MANCUSO, N.
Gas turbines and waste heat boilers (A) ....My 151
MANFREDI, D. V.
Development of a high-temperature molten lithium pump (A) ....Ja 75
MANN, L., JR.
Statistical methods facilitate maintenance planning and scheduling (A) ....N 79
MANN, T. K.
A comparison of turbulent lubrication theories and a solution of Constantinescu's equation for a finite-length bearing (A) ....S 87
MANNING, G. B.
Compact AK process nuclear system (A) ....My 147
MANOS, W. P.
Dynamic analysis of rolling freight cars (A) ....F 73
Railroads—new concepts and components (A) ....Jl 67
MANSTON, J. W.
Design and operational experience with a direct digital control installation (A) ....Mr 83
MANUFACTURING
Automated manufacturing planning (A) ....Jl 69
MARCO, S. M.
Goals of engineering education: part 4—positions and comments ....Mr 62
MARIN, J.
Cumulative damage and effect of mean strain in low-cycle fatigue of a 2024-T351 aluminum alloy (A) ....Ap 85
Experimental investigations on compound thin-walled pressure vessels (A) ....N 79
Theoretical analysis of a compound thin-walled cylindrical pressure vessel for materials with directional properties (A) ....N 79
MARINE ENGINEERING. *See also* GAS TURBINES
Diesel propulsion on Great Lakes ships (A) ....Je 66
Diesel vs. steam for marine propulsion (A) ....Je 66
Investigation of embedment anchors for deep-ocean use (A) ....N 78

(A) denotes Abstract; (AC) Author's Closure; (BR) Book Review; (C) Correspondence; (D) Discussion; (Ed) Editorial

MARINE ENGINEERING *(Continued)*
The marine gas turbine ..... O 22
Propeller knots (A) ..... D 44
Propellers and shafts (A) ..... O 55
Recent experience in the large marine diesel-engine maintenance (A) ..... Je 66
Requirements for compact shipboard interior communications (IC) equipment (A) ..... Je 74
MARKETING
The 47 functions of marketing ..... Jl 30
MARLOWE, DONALD E.
Elected vice-president of ASME ..... N 115
Received 1966 "Engineer of the Year Award" from Washington D. C.'s Engineers' Joint Committee ..... Je 107
MARRIS, A. W.
Local relationships between turbulence stress gradients and mean secondary flow (A) ..... Ja 74
Secondary flows in an incompressible fluid of varying density in a rotating reference frame (A) ..... Ja 72
Theory of the bathtub vortex (A) ..... D 66
MARSH, R. O.
Prestressed concrete reactor vessels ..... Jl 34
Prestressed concrete structures for large power reactors (A) ..... Mr 88
MARTA, H. A.
Dynamic measurement of rail profile and related locomotive truck motions (A) ..... Jl 71
MARTA, H. A.
Lateral loading between locomotive truck wheels and rail due to curve negotiation (A) ..... F 75
MARTELLOTTI, MARIO E.
Obituary ..... N 119
MARTIN, A. D.
Effects of prior metallurgically induced compressive residual stress on the metallurgical and endurance properties of overload-tested ball bearings (A) ..... Mr 78
MARTIN, G. H.
An analytical method of synthesizing mechanisms based on roulette theory (A) ..... O 65
MARTIN, H. ARTHUR
Obituary ..... My 179
MARTIN, J. A.
Microstructural alterations of rolling-bearing steel undergoing cyclic stressing (A) ..... Mr 78
MARTIN, JAMES W.
Elected vice-president—engineering of Bucyrus-Erie Company ..... Ap 118
MARTIN, JOHN F.
Obituary ..... F 107
MARTIN, JOSEPH
Obituary ..... D 103
MARTIN, MARVIN D.
Elected Fellow of ASME ..... Jl 111
MARTINEZ, E.
An experimental study of the response of a small porous chamber to forced oscillation (A) ..... F 79
A study of the response of a small porous chamber to forced oscillation (A) ..... Ja 75
MASON, JOHN E.
Obituary ..... O 103
MASRI, S. F.
On the stability of the impact damper (A) ..... S 85
MASSA, ROBERT F.
Obituary ..... S 122
MASSIN, HYMAN D.
Obituary ..... F 107
MASS TRANSFER
Transient laminar free-convection heat and mass transfer in two-dimensional closed containers containing distributed heat source (A) ..... Mr 81
Transport phenomena from cylinders in reciprocating harmonic rotation, including uniform suction or blowing (A) ..... Ja 78
MATERIALS HANDLING. *See also* BINS
Material-handling complex for construction of Oroville Dam (A) ..... Mr 85
Vibrating conveyor pipe (A) ..... D 59
MATHEMATICS
Fifty years of relativity (A) ..... Ag 51
Matrix methods in dimensional analysis (A) ..... Mr 89
A noniterative numerical solution of Poisson's and LaPlace's equations with applications to slow viscous flow (A) ..... Jl 74
Similitude and approximation theory (BR) ..... Mr 93
MATTHEWS, JOHN F.
Obituary ..... Ap 121
MATTSSON, A. C. J.
Energetics 6: magnetohydrodynamic power ..... N 38
MATULA, RICHARD A.
Comparison between exact and one-dimensional theories for incipient melting in reentry simulation (A) ..... Ja 75
MATZNER, B.
Critical heat flow in long tubes at 1000 psi with and without swirl promoters (A) ..... Ja 78
Transient DNB test on CVTR fuel assembly (A) ..... Mr 88
MAUER, WILLIAM R.
Obituary ..... F 107
MAXWELL, CARL A.
Obituary ..... Ap 121
MAYBEE, J. S.
Normal and quasi-normal modes in damped linear dynamic systems (A) ..... My 152
MAYO, H. A., JR.
Tube turbine units and their application (A) ..... Ja 73
Tube turbine units: their application ..... My 118
MAYOR, H. A.
Steam-turbine-driven auxiliary generators (A) ..... N 85
MCCABE, J. T.
Transient dynamics of a tilting pad gas bearing system (A) ..... Ag 64
MCCLELLAND, CORY C.
Obituary ..... Je 111
MCCLURE, ELDON R.
Thermal effects in dimensional metrology ..... F 26
MCCOMAS, S. T.
Combined free and forced convection in a horizontal circular tube (A) ..... Ja 81
Laminar pressure drop associated with the continuum entrance region and for slip flow in a circular tube (A) ..... My 153
MCCRORY, R. J.
Derivation of business opportunities through technical planning (A) ..... Ag 63
MCCULLOUGH, RAY A.
Obituary ..... O 103
MCDONALD, G. CORRY
Nuclear electrical power for canal construction ..... Ag 22
MCELHANEY, J. H.
Analysis and design of a streamlined heart valve prosthesis (A) ..... Je 73
Dynamic response of biological materials (A) ..... Ap 89
MCELIGOT, D. M.
Internal low Reynolds number turbulent and transitional gas flow with hea transfer (A) ..... Mr 80
MCELVAIN, R. J.
Minimization of solar radiation pressure effects for gravity-gradient stabilized satellites (A) ..... Mr 82
MCFADDEN, P. W.
Film free convection in helium II (A) ..... Ja 79
MCGEE, J. P.
Bureau of Mines progress in developing open and closed-cycle coal-burning gas turbine power plants (A) ..... My 148
MCGEE, S. W.
Fatigue properties of P/M parts (A) ..... Jl 70
MCGONNAGLE, W. J.
Dynamic nondestructive monitoring to determine mechanisms of failure (A) ..... Ag 63
MCIVER, R. W.
Biaxial strengthening of textured titanium (A) ..... Je 72
MCKINNON, C. N.
Experimental investigation of a magnetically balanced arc in a transverse argon flow (A) ..... Mr 86
MCKINNON, MIKAL
Awarded prize for technical paper at Colorado School of Mines ..... Ag 86
MCKNIGHT, H. G.
Vapor-phase forming (A) ..... Ag 59
MCLAMORE, R.
Mechanical behavior of anisotropic sedimentary rocks (A) ..... O 68
MCLAUGHLIN, D. W.
Turbomachinery design analysis of a 500-kw closed-Brayton-cycle power system (A) ..... My 149
MCLEAN, W. J.
Composite materials—part three: fiber-reinforced materials ..... F 38
MCLEARY, G. P.
An evaluation of the carbides as axial mechanical seal face materials (A) Jl 64
MCMAHON, JEROME B.
Obituary ..... D 103
MCMASTER, R. C.
Magnetic reaction analyzer—a new tool for maintenance inspection and control (A) ..... Jl 66
MCNALL, PRESETON E., JR.
Joined staff of the Institute of Environmental Research, Kansas State University ..... Je 108
MCNAMARA, J. B.
ABS properties and applications (A) ..... F 78
MCNAUGHTON, A. G. L.
Obituary ..... S 122
MCPHAIL, JOHN J.
Assigned as Task Manager, at Sacramento office of Burns and Roe, Inc. ..... S 114
MCWHORTER, HENRY S.
Obituary ..... S 122
MEASURING MACHINES. *See* INSTRUMENTS, MEASURING
MECHANISMS. *See* KINEMATICS
MECK, H. R.
Analysis of a semi-infinite strip with constant stress flanges under concentrated loads (A) ..... O 69
MEITNER, LISE
Given the Enrico Fermi Award ..... D 78
MEIXNER, J.
Consequences of an inequality in non-equilibrium thermodynamics (A) ..... S 84
MELSON, L. B.
The implications of the "Man-in-the-Sea" program (A) ..... Jl 68
MEMORIES
Memory is a drum (A) ..... D 52
MERWIN, J. E.
Pipe stresess induced in laying offshore pipeline (A) ..... O 67
MESSINGER, BERNARD L.
Thermal management of an SST ..... Ja 30
METAL CASTING
Ferrous casts from refractory dies (A) ..... Ag 46
Revolution in casting (A) ..... F 61
METAL COATING
Effect of alloy coatings (A) ..... Ap 65
Electrocoating process: corrosion protection of highly profiled designs (A) ..... Ag 62
Plastic coatings: the fluidized-bed process ..... Mr 56
Plastic surface coatings (A) ..... D 59
Recent developments in organic coatings for prefinishing metal (A) ..... Ag 60
Vapor-phase forming (A) ..... Ag 59
METAL CUTTING
Air Force has machinability data center ..... Mr 102
Electrochemical machining — prediction and correlation of process variables (A) ..... Je 75
Machining with lasers (A) ..... Ag 57
Maximum profit as the criterion in the determination of the optimum cutting conditions (A) ..... Je 75
Mechanism of material removal in the erosive cutting of brittle materials (A) ..... Ap 86
On the ductile behavior of nominally brittle materials during erosive cutting (A) ..... Ap 87
Progress of the theory of metal cutting in Russia (A) ..... Je 76
A salt for ECM (A) ..... D 45
METAL DRAWING
Agitation of a wire (A) ..... Ja 63
Effect of anisotropy and work-hardening characteristics on the stress and strain distribution in deep drawing (A) Je 75
METAL EXTRUSION
Experimental study of hydrostatic extrusion (A) ..... Ap 84
METAL FAILURE
Hole story (A) ..... Ja 59
METAL FATIGUE. *See* BEARINGS; FATIGUE OF MATERIALS
METAL FORGING
Estimation of dynamic forces in very high-speed impact forging (A) ..... Ap 86
METAL FORMING
Hydrostatic pressure: its role in metal forming ..... Ap 34
New developments in magnetomotive forming and a new concept—magneto-hydraulic forming (A) ..... S 83
METAL HARDENING
Increasing strength of gas turbine alloys by cold work prior to aging (A) ..... My 145
METALLURGY
Metallurgical considerations involved in the development of nickel-base high-temperature sheet alloys (A) ..... My 145
METAL ROLLING
Effects of nonsymmetry in strip rolling on single-roll drive mills (A) ..... Ap 87
Some experimental results concerning spread in the rolling of lead (A) ..... Ap 86
METALS
The light metals (A) ..... N 69

METALS (Continued)
Metal Properties Council—formed to review, coordinate, and distribute metals engineering data ..... Ag 76
The metals shortage (Ed) ..... D 17
Properties and applications of dispersion-strengthened metals (A) ..... JI 68
A visual entropy of fusion (A) ..... N 50
Whisker-strengthened metals (A) ..... JI 69
METAL SURFACES
Reflection detection of defects in metal surfaces (A) ..... S 72
METAL TESTING
A case of a well-known effect (A) ..... JI 52
Effect of plastic deformation on the strain energy release rate in a centrally notched plate subjected to uniaxial tension (A) ..... Ap 86
Effect of section size on notch strength (A) ..... Je 72
Effect of the rotation of the stress axes on the yield criterion of prestrained materials (A) ..... Ap 84
Fracture toughness determination of A-302B and Ni-Mo-V steels with various size specimens (A) ..... Je 72
METALWORKING
Lasers for measurement (A) ..... Ag 62
Measurement of boundary lubricant viscosity at metal-deformation pressure (3000 atm, 20 tons/sq in) (A) ..... O 67
METER PROVING. *See* FLOWMETERS
METRIC SYSTEM. *See* WEIGHTS AND MEASURES
METROLOGY. *See* WEIGHTS AND MEASURES
METZGER, D. E.
Heat transfer from a shrouded rotating disk with film cooling (A) ..... Mr 80
MEYER, F. W.
Goals of engineering education (C) ..... Ap 92
MEYER, W.
Torsional vibrations in the shafts of linkage mechanisms (A) ..... O 63
MEYKAR, OREST A.
Joined staff of Dependability Branch, Naval Ship Engineering Center, Naval Ship Systems Command, Navy Department, as general engineer ..... S 114
MICKLETHWAITE, WILLIAM E.
Obituary ..... Mr 121
MICROMETERS. *See* INSTRUMENTS, MEASURING
MILICH, J. J.
Development of a high-temperature molten lithium pump (A) ..... Ja 75
MILITARY VEHICLES. *See* MOTOR VEHICLES
MILKING MACHINES
The milking machine (A) ..... S 65
MILLER, DONALD B.
Elected president of the International Society for Advancement of Management ..... S 116
MILLER, EARLE C.
Reelected to complete unexpired term for vice-president of ASME ..... N 116
MILLER, J. E.
Effect of valve design on plunger-pump net positive suction head requirements (A) ..... N 80
MILLER, W. R.
Cumulative damage and effect of mean strain in low-cycle fatigue of a 2024-T351 aluminum alloy (A) ..... Ap 85
MISSILES. *See* AIRCRAFT ENGINES
MITCHELL, J. E.
Development of a 3000 psi (21.1 kp/sq bmep) continuous-duty diesel engine (A) ..... Je 67
MITCHELL, J. W.
Heat transfer from a shrouded rotating disk with film cooling (A) ..... Mr 80
MITCHELL, R. W. STUART
Influence of current research and development on the application of the open-cycle gas turbine as a propulsion unit for merchant ships (A) ..... My 144
MITCHELL, T. M.
Cavitation bubble collapse observations in a venturi (A) ..... F 80
MOCHEL, NORMAN L.
Elected Fellow of ASME ..... Je 109
MOCKUS, ALFONSAS
Obituary ..... S 122
MODREY, JOSEPH
Generalized variables and subscripture for systems analysis (A) ..... F 72
MOECK, E. O.
Critical heat flux in long tubes at 1000 psi with and without swirl promoters (A) ..... Ja 78
MOEN, WALTER B.
Elected vice-president of ASME ..... N 114
MOLDENHAUER, J. G.
Design, fabrication, and testing of acrylic pressure hulls for manned vehicles (A) ..... Ap 78
MOLDING
Innovations in molding plastics ..... S 60
MOMENTUM TRANSFER
Momentum transfer in turbulent separated flow past a rectangular cavity (A) ..... S 84
MONEL
Cyclic strain fatigue of K-Monel (A) ..... Ag 65
MONK, IVAN
Appointed general manager of the turbine division of DeLaval Turbine Inc. ..... D 100
MONTGOMERY, D. BRUCE
Potential of superconducting magnets in design engineering (A) ..... S 83
MONTGOMERY, L. N.
Elimination of turbine erosion in the T56 turboprop engine (A) ..... Ja 70
MONTGOMERY, T. W.
Operating experience with the Babcock & Wilcox regenerative air heater (A) ..... N 85
MOODY, F. J.
Maximum two-phase vessel blowdown from pipes (A) ..... Ja 80
MOODY, L. F., JR.
Retired from the Mobil Oil Corporation ..... S 116
MOORE, C. C.
Gas turbines ball bearing design (A) ..... Ag 63
MOORE, C. V.
An introduction to the ASME unfired pressure vessel code (A) ..... Ap 85
MOORE, CHARLES E.
Recipient of Young Engineer of the Month Award ..... Ap 116
MOORE, CLIFFORD J., JR.
Transient phenomena in heat transfer across surfaces in contact (A) ..... Ja 81
MOORE, R. E.
Analysis of cycle with first-stage high-pressure turbine extraction steam for auxiliary turbine drives (A) ..... N 86
Cycles for supplying steam to desalting evaporators of dual-purpose power-generation plants (A) ..... Ja 71
MOORING SYSTEMS
Deep sea mooring ..... S 51
MORGENTHALER, G. W.
Normal model vibrations for some damped *n*-degree-of-freedom nonlinear systems (A) ..... S 85
MORI, A.
On the stabilizing methods of externally pressurized thrust gas bearings (A) D 66
MORI, H.
On the stabilizing methods of externally pressurized thrust gas bearings (A) D 66
MORITZ, HAROLD K.
Awarded the title of professor emeritus at University of Washington ..... Je 107
MORLAND, JULES A.
Obituary ..... Je 111
MORROW, I. B., JR.
Energetics 6: magnetohydrodynamic power ..... N 38
MORROW, J.
Correlation of the pitting fatigue life of bearings with rolling contact rig data (A) ..... Mr 79
MORSE, I. E., JR.
Use of the collineation pole circle in the synthesis of four-bar mechanisms (A) D 63
MOSES, EDWIN P.
Obituary ..... Je 111
MOSES, S. D.
Results of a sophisticated approach to compressor operation in high-pressure diversified service (A) ..... Je 66
MOTOR VEHICLES. *See also* AUTOMOTIVE ENGINEERING
Military vehicles (A) ..... Mr 77
Operating dynamics and computer simulation ..... Ap 60
Yarn for a tanker (A) ..... D 54
MOTORS, ELECTRIC
The mechanical engineering of electric motors ..... JI 27
MOW, C. C.
An approximate procedure for the solution of a class of transient wave diffraction problems (A) ..... Ap 82
MOWBRAY, D. F.
Fracture toughness determinations of A-302B and Ni-Mo-V steels with various size specimens (A) ..... Je 72
MUIJDERMAN, E. A.
Analysis and design of spiral-groove bearings (A) ..... Ag 63
MULHERIN, J. H.
Stress-corrosion susceptibility of high-strength steel, in relation to fracture toughness (A) ..... Je 72
MULVANEY, W. P.
Fracture mechanics—epoxy resins (A) F 79
MUNGER, SARA J.
Selection of human factors tests in large-scale operational testing of systems (A) ..... Je 73
MUNIER, LEON L.
Obituary ..... D 103
MUNRO, R.
Telemetering of information from a working internal-combustion engine (A) ..... Je 65
MURAKAMI, M.
Discharge coefficients of fire nozzles (A) ..... JI 75
MURAKAMI, S.
Large deflection in elastoplastic bending of a simply supported circular plate under a uniform load (A) ..... D 68
MURPHY, PETER K.
Obituary ..... O 103
MURRAY, ARCHIE V.
Obituary ..... N 119
MURRAY, R. I. (author)
Thermofluid mechanics (BR) ..... Je 84
MUSCARELL, ROBERT V.
Obituary ..... F 107
MUSCHAMP, GEORGE M.
Named vice-president of engineering, International Division, Honeywell, Inc. F 104
MYERS, G. E.
An interferometric study of mass transfer from a vertical plate at low Reynolds numbers (A) ..... Ja 80
MYERS, T. W.
Experimental investigation of a magnetically balanced arc in a transverse argon flow (A) ..... Mr 86

N

NA, T. Y.
Optimization of jet pump systems (A) JI 74
NAAS, F. A.
Silicone rubber comes of age (A) ..... F 77
NAGELBERG, GEORGE N.
Named manager of engineering for Sanderson & Porter, Inc. ..... Je 108
NAKASHIMA, M.
A study of erosion between two parallel surfaces oscillating at close proximity in liquids (A) ..... D 64
NANCE, R. A.
Eddy-current inspection of pipe at 2150 F (A) ..... N 83
NATIONAL HISTORIC LANDMARKS
Nuclear panegyrics (A) ..... N 65
NATURAL GAS
Storage of natural gas (A) ..... F 56
Use of natural gas in the cupola (A) Mr 86
NEGRONI, J.
Multipurpose use of aircraft jet expander power packs in Puerto Rico (A) ..... JI 75
NELLES, MAURICE
Goals of engineering education (D) My 158
NELSON, C. W.
Applying the wear model to design problems (A) ..... S 82
An engineering model for wear (A) ..... S 82
Special considerations relating to the engineering model for wear (A) ..... S 83
NELSON, EMIL A.
Obituary ..... Ap 121
NELSON, I.
Plane waves in an elastic half-space due to combined surface pressure and shear (A) ..... My 152
NEMAT-NASSAR, S.
Torsional instability of cantilevered bars subjected to nonconservative loading (A) ..... Ap 83
NEUBAUER, A. H., JR.
An analytical of the dynamics of an elastic linkage (A) ..... F 72
NEUBAUER, E. THEORDORE
Obituary ..... Ap 121
NEUKRANZ, DONALD W.
Appointed marketing manager of Westinghouse Large Turbine Division ..... F 104
NEVINS, RALPH G.
Heat-loss analysis for deep-diving oceanauts (A) ..... Ja 77
NG, C. W.
A theory for turbulent fluid and its application to bearings (A) ..... D 64
NICA, A.
On the field of temperatures in lubricating films (A) ..... D 64

(A) denotes Abstract; (AC) Author's Closure; (BR) Book Review; (C) Correspondence; (D) Discussion; (Ed) Editorial

NICHOLS, J. B.
Named assistant to the general manager of The Boeing Company's turbine division ..... Je 108
This licensing thing (AC) ..... My 159

NICKEL, E.
Design of combustion chambers of heaters for transmission of the primary heat of closed-cycle gas turbines (A) ..... My 148

NICKEL ALLOYS
Effect of vacuum arc remelting of air-melt electrodes on the structure and elevated-temperature properties of a nickel-base gas turbine superalloy (A) ..... My 145
Effects of prior creep exposure on 1400 F strength of Inco 713 nickel-base alloy (A) ..... Ap 86

NICKERSON, ALVANO T.
Obituary ..... N 119

NISENSON, STANLEY M.
Chosen by the Junior Chamber of Commerce (Jaycees) to be included in the 1966 edition of Outstanding Young Men of America ..... Ag 87

NITROGEN
Film boiling of saturated nitrogen flowing in a vertical tube (A) ..... Ja 79

NOCITRA, SAMUEL
Obituary ..... Ap 121

NOEL, J. S.
An investigation of the stresses in welded tubular connections (A) ..... Ap 88

NOISE ABATEMENT
Facilities and instrumentation for aircraft engine noise studies (A) ..... My 151
How to reduce the noise hazard ..... O 26
Human engineering and acoustical fatigue (A) ..... S 82
Internally generated noise from gas turbine engines. Measurement and prediction (A) ..... My 151
Legal implications of noise in equipment for the plant and office (A) ..... Jl 68
Mechanisms of noise generation in a compressor model (A) ..... My 151
Noise: an international problem ..... S 100

NOLAN, ROBERT W.
Pipeline code (C) ..... N 88

NOISEUX, D. U.
A simple source of intense vibrations (A) ..... Mr 89

NOITE, G. H.
Marine gas turbines: their development and capabilities (A) ..... My 145

NONLINEAR SYSTEMS
Normal model vibrations for some damped *n*-degree-of-freedom nonlinear systems (A) ..... S 85

NOTTAGE, H. B.
Survey of information concerning the effects of nonstandard approach conditions upon orifice and venturi meters (A) ..... Mr 91

NOVAK, RICHARD A.
Computed aspect ratio-curvature effects upon the performance of a high-pressure-ratio single-stage compressor (A) ..... Ja 68

NOVAKOVIC, M.
A new method of burnout detection (A) ..... Je 75

NOZZLES
Ablative rocket-nozzle design for earth entry (A) ..... Jl 70
Discharge coefficients of fire nozzles (A) ..... Jl 75
Effect of cavitation on the discharge coefficient of standard flow nozzles (A) ..... Jl 75
Most probable discharge coefficients for ASME flow nozzles (A) ..... Mr 91

NUCLEAR EXPLOSION DETECTION
Notes from the underground (A) ..... O 52

NUCLEAR FUELS
Brookhaven experience with handling and shipping of and cask design for reactor spent-fuel elements (A) ..... F 71
How to make a quick bundle (A) ..... F 63
Manufacture of nuclear cores (A) ..... S 78
Nuclear thrift (A) ..... Ja 58

NUGENT, EDWARD L.
Obituary ..... D 103

NUGENT, ROBERT L.
Named head of St. Clair Power Plant, Detroit Edison Co. ..... O 99

NUMBERING SYSTEMS
Simplifying your engineering numbering system (A) ..... Jl 70

O

O'BRIEN, J. L.
Electron microscopy of stress-induced structural alterations near inclusions in bearing steels (A) ..... Mr 79

O'CONNOR, J. J.
Compliance under a small torsional couple of an elastic plate pressed between two identical elastic spheres (A) ..... S 85

ODDEN, C. R.
U. S. Navy's experience in power generation with the mobile gas turbine (A) ..... My 143

O'DONOGHUE, J.
Effect of elastic distortion on journal bearing performance (A) ..... O 66

OFFSHORE DRILLING
New engineering techniques for application to deep-water mooring (A) ..... N 81
Pipe stresses induced in laying offshore pipeline (A) ..... O 67
Two-ocean research program ..... O 78
The use of computers in balancing offshore compressor units (A) ..... N 82
Weld testing—offshore structures (A) ..... N 80
..... N 80

OGOZALEK, F. J.
Theory of catenoidal-pulse motion and its application to high-speed cams (A) ..... D 63

OHASHI, Y.
Large deflection in elastoplastic bending of a simply supported circular plate under a uniform load (A) ..... D 68

O'HEARNE, CLIFFORD S.
Licensing thing (C) ..... F 82

OHJI, K.
Cumulative damage and effect of mean strain in low-cycle fatigue of a 2024-T351 aluminum alloy (A) ..... Ap 85

OIL. *See also* FUEL; LUBRICANTS AND LUBRICATION
In situ retorting (A) ..... O 56
Multinational lab (A) ..... O 58
Shale oil country (A) ..... Ag 47

OKADA, T.
A study of erosion between two parallel surfaces oscillating at close proximity in liquids (A) ..... D 64

OLDENBURGER, RUFUS
Elected Fellow of ASME ..... Ja 117
Goals of engineering education (D) ..... My 156

OLSON, A. R.
Shipboard stabilization of large antennas (A) ..... Mr 84

OLTMANN, A.
Gamma radiation source and irradiator design (A) ..... F 71

O'MARA, RICHARD F.
Obituary ..... N 119

O'NEILL, J. A.
SCS ignition — silicon controlled for peak ignition performance and maximum reliability (A) ..... Je 67
Solid-state ignition ..... O 30

OPERATING DYNAMICS
Operating dynamics and computer simulation ..... Ap 60

OPRECHT, U.
Problems related to the development of a gas turbine in the 10-30 hp class (A) ..... Je 69

OPTICS
Fiber optics in data processing (A) ..... Mr 67

ORCUTT, F. K.
Steady-state and dynamic characteristics of a full circular bearing and a partial arc bearing in the laminar and turbulent flow regimes (A) ..... Ag 63
The steady-state and dynamic characteristics of the tilting-pad journal bearing in laminar and turbulent flow regimes (A) ..... D 64

ORIFICE METERS. *See* FLOWMETERS

ORIFICES
Quadrant-edge orifice performance under cavitating conditions (A) ..... Jl 75

ORMAND, L. W.
Internal low Reynolds number turbulent and transitional gas flow with heat transfer (A) ..... Mr 80

ORMONDROYD, JESSE
Elected Fellow of ASME ..... Jl 111

ORSTETT, HJALMAR
Obituary ..... Ap 121

OSCILLATION. *See* VIBRATION

OSTAFIEV, V. A.
Progress of the theory of metal cutting in Russia (A) ..... Je 76

OSTEN, LOUIS S.
Elected vice-president and director of engineering, Fluid Handling Division of International Telephone and Telegraph Corporation ..... O 98

OTOCKA, EDWARD A.
Elected president of the Alumni Association of the Stevens Institute of Technology ..... D 98

OTTO, KARL H.
Elected vice-president of ASME ..... N 115

OUTWATER, JOHN O.
Composite materials part 1: particle materials ..... F 32

OVERSEAS SURVEY ..... Ja 66; F 66; Mr 76; Ap 76; My 140; Je 60; Jl 60; Ag 52; S 78; O 58; N 76; D 58

OWCZAREK, J. A.
On a wave phenomenon in turbines (A) ..... Je 68

OY, RAUTARUUKKI
Influence of microstructure and heat-treatment on impact and creep properties of a low alloy Cr-Mo-V turbine steel (A) ..... My 145

OZISIK, M. NECATI (author)
Heat exchanger design (BR) ..... F 83

P

PACKED BEDS. *See* FILTERS AND FILTRATION

PACKER, LEO S.
Appointed director of The Post Office Department's Office of Research and Engineering ..... D 100

PAHMEYER, FRED O.
Obituary ..... Mr 121

PAI, R. H.
Empirical correlation of factors influencing departure from nucleate boiling in stream-water mixtures flowing in vertical round tables (A) ..... Mr 81

PAN, C. H. T.
On asymptotic analysis of gaseous squeeze-film bearings (A) ..... O 66
Spherical squeeze-film hybrid bearing with small steady-state radial displacement (A) ..... Ag 64
Thermal distortion of spiral-grooved gas-lubricated thrust bearing due to self-heating (A) ..... D 64

PAO, YIH HSING
Diffractions of horizontal shear waves by a parabolic cylinder and dynamic stress concentration (A) ..... D 68
Stress intensification near a semi-infinite rigid-smooth strip due to diffraction of plastic waves (A) ..... D 69

PARABOLOIDS. *See* SHELLS

PARKER, CHARLES G.
Received certificate for outstanding service as secretary of Region I of ASME for the past four years ..... S 116

PARKER, J. D.
Critical lengths in subsonic and supersonic gas-particle flow in a vertical constant area tube (A) ..... Jl 74

PARKER, KARR, SR.
Elected Fellow of ASME ..... N 117

PARKIN, JOHN HAMILTON
Elected Fellow of ASME ..... N 117

PARKS, DONALD J.
Awarded prize for technical paper at Colorado School of Mines ..... Ag 86

PARMAKIAN, JOHN
Elected Fellow of ASME ..... S 118

PARRY, J. J.
A facility for flow visualization in a large-scale turbine stage (A) ..... Ja 71

PARTICLE ACCELERATORS
Atom's eve (A) ..... F 55
High charge-to-mass ratio injector (A) ..... N 71

PARTINGTON, JAMES
Obituary ..... F 107

PASCHKIS, VICTOR
Ethics, unethical? (C) ..... Mr 92
More on ethics (C) ..... S 89

PASINI, A. C.
Goals of engineering education (C) ..... Je 81

PASINI, D.
Empirical correlation of factors influencing departure from nucleate boiling in stream-water mixtures flowing in vertical round tables (A) ..... Mr 81

PASKIN, R. L.
A study of the response of a small porous chamber to forced oscillation (A) ..... Ja 75

PASLAY, P.
Jump conditions in plane linkage analysis (A) ..... Ag 56

PASTORIZA, HUGH G.
Obituary ..... Je 111

PATENTS
All U. S. patents since 1790 to be microfilmed ....N 99
Patent and secrecy agreements: NICB survey reveals data on requirements of research-minded companies ....Mr 98
Patents galore (A) ....Mr 67
PATTON, K. T.
Tables of hydrodynamic-mass factors for translational motion (A) ....Ap 80
PEACE CORPS
Across the chasm (Ed) ....Jl 21
PEARS, C. D.
Prediction of the thermal conductivity of filled and reinforced plastics (A) ....Ja 77
PEARSON, J. D.
Thermodynamic properties of combustion products (A) ....Mr 86
PEARSON, J. W.
Thermal effects in dimensional metrology F 26
PEEBLES, THOMAS A.
Obituary ....F 107
PEFLEY, R. K. (author)
Thermofluid mechanics (BR) ....Je 84
PEHRSSON, L.
A Swedish all-gas-turbine torpedo boat with controllable pitch propellers (A) My 144
PEIGLER, CHARLES T.
Obituary ....Jl 112
PELLETIER, EMILE J.
Lube info needed (C) ....N 88
PELLIGRINO, P.
SCS ignition—silicon controlled for peak ignition performance and maximum reliability (A) ....Je 67
Solid-state ignition ....O 30
PELLOUX, R. M. N.
Evaluation of heat-resistant alloys for marine gas turbine applications (A) ....Je 68
PENNY, W. R.
Heat transfer from an oscillating horizontal wire to water and ethylene glycol (A) ....Ja 80
PENROD, E. B.
Periodic transfer of solar energy in the earth (A) ....Ap 90
PERALTA, L. A.
An approximate procedure for the solution of a class of transient wave diffraction problems (A) ....Ap 82
PERDREAUVILLE, F. J.
Identification of systems described by partial differential equations (A) ....Mr 82
PERKINS, H. C.
Internal low Reynolds number turbulent and transitional gas flow with heat transfer (A) ....Mr 80
PERLMUTTER, D. D.
Systemtic determination of practical stability regions for nonlinear systems (A) ....Ap 90
PERLMUTTER, MORRIS
Solution of rarefied-gas transport problems (A) ....Ja 76
PERRY, H.
Search for low-sulfur coal (A) ....N 85
PESKIN, R. L.
An experimental study of the response of a small porous chamber to forced oscillation (A) ....F 79
Fiber optic and strain probe mass-flux meters for gas-solids suspensions (A) Jl 74
A study of the mechanics of turbulent gas-solid shear flows (A) ....Ja 73
PETERS, SHERWOOD R.
Awarded prize for technical paper at Colorado School of Mines ....Ag 86
PETERSON, F. J.
Strength of skin and its measurement (A) ....Ap 88
PETERSON, RUDOLF E.
Received a "Distinguished Alumnus Award" at honors convocation at University of Illinois ....S 114
PETROLEUM INDUSTRY
Automation concepts for tank truck loading facilities (A) ....N 81
Flood of steam (A) ....Ap 69
Initial development of a billion-barrel oil reserve (A) ....N 81
A method for controlling hole inclination and direction (A) ....N 79
Petroleum Engineering Conference, 1966 N 104
Water management to eliminate water waste (A) ....N 82
PETROLEUM PIPELINES. *See* PIPELINES
PETROLEUM REFINING
Refinery usage of refractories (A) ....N 80
PETROLEUM-WELL EQUIPMENT
Casing failure problem in steam injection wells, Cat Canyon oil field, Santa Barbara County, California (A) ....N 82
PETROLEUM-WELL EQUIPMENT *(Continued)*
Development and performance of the USS improved buttress-thread oil-well tubing joint (A) ....N 79
Fluid and pressure-operated concentric gas lift valves with automatic control means (A) ....N 80
Free vibrations of stiffened drill strings with static curvature (A) ....O 68
Static bending stresses in catenaries and drill strings (A) ....O 67
Turbine-electric drilling rigs — present and future (A) ....N 81
PEYRONNIN, CHESTER A.
Design — mainstream of engineering (A) F 72
PEYRONNIN, CHESTER A., JR.
Training 1970's design engineer ....My 19
PFERSDORFF, O. H.
Electric utility gas turbines — a maintenance report (A) ....My 146
PFRANK, J. FRANCIS
Appointed vice-president of operations for Pipe Line Service Company ....O 98
PHELPS, RALPH H.
ESL operation (C) ....O 70
PHILLIPS, JOHN
Promoted to supervising mechanical engineer at Burns and Roe, Inc. ....Je 107
PHILLIPS, SAMUEL R.
Design of a canned pump for hazardous liquids (A) ....Ja 75
PHOTOGRAPHY
Photography aids technology (A) ....My 141
PHYSICS
An anomaly (C) ....Ag 67
The hills of gravity (A) ....My 130
PICKETT, A. G.
Evaluation of high-strength materials for use in severe environments (A) ....N 82
PIER, J. R.
Vehicle control in mass-transit systems (A) ....Jl 71
PIERCE, F. J.
The law of the wake and plane of symmetry flows in three-dimensional turbulent boundary layers (A) ....Ja 72
PIERSALL, C. H., JR.
The single-blow transient testing technique for compact heat exchanger surfaces (A) ....Je 69
PIETERS, IVON S.
Obituary ....Ap 121
PINKOWISH, A. A.
Effects of prior creep exposure on 1400 F strength of Inco 713 nickel-base alloy (A) ....Ap 86
PINKUS, O.
The dynamics of real air from subcritical temperature to 1500 K (A) ....S 84
PIPE. *See also* CYLINDERS
Carbon and carbon-moly steam pipe after long-time service (A) ....Ap 86
Eddy-current inspection of pipe at 2150 F (A) ....N 83
Prediction of pressure loss during two-phase horizontal flow in two-inch pipe (A) ....O 67
Rules of thumb (A) ....Ap 67
PIPELINES
Automatic batch flow in pipelines ....Mr 52
Experimental measurement of stresses while laying pipe offshore (A) ....N 83
Heated oil pipe lines (A) ....N 82
Pipe stresses induced in laying offshore pipeline (A) ....O 67
Pipelines in Libya ....Jl 42
Pipeline strainers (A) ....Ag 49
Transalpine pipeline (A) ....Ap 76
PITT, P. A.
Small gas turbines in industrial applications (A) ....Je 70
PIZZI, A. L.
Wrapping flat-type resistors (A) ....Ap 87
PLANT ENGINEERING
Chemical plant design (A) ....Jl 65
Design, start-up, and maintenance of chemical plants (A) ....Jl 66
Plant Engineering and Maintenance Conference, 1966 ....Je 92
Plant engineering for a chemical plant ....Jl 64
PLASMA TECHNOLOGY
Acceleration of a plasma (A) ....Ap 66
The Debye radius (A) ....Ap 73
Laserplasma (A) ....S 75
Plasma spraying (A) ....Ja 82
PLASTIC COATINGS
Plastic surface coatings (A) ....D 59
Quick cure of a coated surface (A) ....Ag 45
PLASTICITY
Surface friction and the extremum principles for the load on the plastic-rigid body at the yield point (A) ....Ap 87
PLASTICS. *See also* METAL COATING
ABS properties and applications (A) ....F 78
PLASTICS *(Continued)*
Application of solid-state urethanes from liquid materials (A) ....F 78
Conductive plastics (A) ....Ag 60
Conductive plastics ....O 46
Fracture mechanics — epoxy resins (A) F 79
Growth of polypropylene through automotive applications (A) ....F 78
Innovations in molding plastics ....S 60
Innovations in molding thermosets (A) F 79
Melt fracture — a correlation with rheological parameters (A) ....F 77
Modulus of elasticity for design with polysulfone thermoplastic (A) ....F 79
The plastics extruders (A) ....Je 50
Predictions of the thermal conductivity of filled and reinforced plastics (A) Ja 77
PLATES
Bounds on the maximum thermoelastic stress and deflection in a beam plate (A) ....D 67
On certain approximations in sandwich plate analysis (A) ....S 86
Compliance under a small torsional couple of an elastic plate pressed between two identical elastic spheres (A) S 85
Effect of lateral hydrostatic pressure on the instability of elastic solids, particularly beams and plates (A) ....S 86
On fundamental solutions and Green's functions in the theory of elastic plates (A) ....Ap 83
Large deflection in elastoplastic bending of a simply supported circular plate under a uniform load (A) ....D 68
PLESSET, M. S.
Effect of exposure time on cavitation damage (A) ....F 79
PLUMMER, FRED L.
Elected president of the International Institute of Welding ....S 116
PLUNKETT, R.
Free vibrations of stiffened drill strings with static curvature (A) ....O 68
Static bending stresses in catenaries and drill strings (A) ....O 67
PLUTONIUM
Designing with plutonium and uranium Je 28
POLLOCK, CHARLES
Joined the advertising and public relations department of Norton Company Je 107
POLLOCK, W. A.
Goals of engineering education (C) ....Je 80
POOL, E. B.
Elastomeric seals for valves ....Ap 47; (AC) Jl 79
POPE, J. A.
Techniques used in achieving a high specific airflow for high-output, medium-speed diesel engines (A) ....Je 65
PORTZ, C. E.
Plant engineering for a chemical plant (A) ....Jl 64
POSSER, F. H.
Application of value engineering during initial design (A) ....Ag 59
POTTER, A. F.
Numerical analysis of the gas-lubricated spiral-groove thrust bearing-compressor (A) ....Ag 63
POTTER, J. H.
A modified Gibbs experiment (A) ....F 76
POTTER, RICHARD CARTER
Named president of Northrop Institute of Technology ....Ap 116
POWDER COMPACTION
Compaction of powders (A) ....My 134
POWDERED METALS
Designing powder metallurgy parts ....N 53
Factors influencing the economic design and application of powder metallurgy parts (A) ....Ag 59
Fatigue properties of P/M parts (A) ....Jl 70
Guidelines for designing powder metallurgy parts (A) ....Ag 56
Impact properties of ferrous sintered metals produced under varying conditions (A) ....Ag 63
P/M parts — today's properties (A) ....Ag 56
Some effects of temperature and heat-treatment on the strength of sintered WC-Co alloys (A) ....Ag 60
POWER. *See also* ENERGY; ENERGY CONVERSION; FUEL CELLS; MAGNETOHYDRODYNAMICS
Energetics 3: thermoelectric power ....Ag 36
Energetics 4: thermionic power ....S 56

(A) denotes Abstract; (AC) Author's Closure; (BR) Book Review; (C) Correspondence; (D) Discussion; (Ed) Editorial

POWER (*Continued*)
Energetics 5: photovoltaic power ....O 38
Energetics 6: magnetohydrodynamic power ....N 38
Energetics 7: the comprehensive view ..D 34
N. Y.: no more blackouts? ....N 95
Power Generation Conference, 1966 ....N 110
Power: nuclear vs. conventional ....Je 18

POWER CONVERSION SYSTEMS
Comparison of dynamic and static power conversion for undersea missions (A) My 149

POWER DISTRIBUTION SYSTEMS
D-C transmission systems (A) ....N 68

POWER DRIVES. See DRIVES, POWER

POWER PLANTS. *See also* BOILERS; ENGINES
Application of free-piston gasifiers in plants using combined gas and steam cycles (A) ....My 151
Comparison of dynamic and static power conversion for undersea missions (A) My 149
GASTEAM — a combination of gas and steam turbines (A) ....My 150
Geothermal power plant (A) ....O 59
Large-scale sea thermal power (A) ....Ap 89
A medium-size combined-cycle power station (A) ....My 151
Operator training via simulation — large utility pioneers new approach to instruct power-plant personnel (A) ....Ja 71
Special fluid power plants (A) ....Je 68
The 20-22 MW free-piston diesel generating set at Chartres (A) ....Je 65
Thermal-cycle analysis by variables — a universal approach for digital computers (A) ....F 70
Thermal power from seawater ....Ap 41; (D) Jl 79
Trends in combined steam-gas turbine power plants in the U. S. A. (A) My 151

POWER PLANTS, GAS TURBINE. *See also* GAS TURBINES
Advanced gas turbines for combined-cycle power plants (A) ....My 151
Application of gas bearings to closed-system Brayton-cycle turbomachinery — recent accomplishments and potential problem areas (A) ....My 147
Availability balance of gas turbines (A) My 146
Bureau of Mines progress in developing open and closed-cycle coal-burning gas turbine power plants (A) ....My 148
Compact AK process nuclear system (A) My 147
Electric utility gas turbines — a maintenance report (A) ....My 146
Evaluating systems to increase gas turbine capability (A) ....My 150
Experience gained from a ten-year operation of gas turbine working with blast furnace gas (A) ....My 146
Experience with gas turbines for peaking and emergency power (A) ....N 86
Gas turbine application by Central Electricity Generating Board (A) ....Je 69
Gas turbine with utilization of exhaust heat for district heating (A) ....My 150
A graphical solution of the matching problem in closed-cycle gas turbine plants (A) ....My 149
10,000,000 hours of gas turbine operation (A) ....My 149
100,000 hours with gas turbines (A) My 146
Jetricity of Sewaren (A) ....Ja 58
Long-life base load service at 1600 F turbine inlet temperature (A) ....My 146
Multipurpose use of aircraft jet expander power packs in Puerto Rico (A) ....Jl 75
Operating and control characteristics of a large compound-cycle, two-shaft gas turbine (A) ....Je 71
Seagoing turbine (C) ....Ap 95
Some large gas turbine developments in Great Britain — past, present, and future (A) ....My 146
Turbomachinery design analysis of a 500-kw closed-Brayton-cycle power system (A) ....My 149
Two-phase materials attrition problems for Rankine-cycle liquid-metal power plants (A) ....My 147
U. S. Navy's experience in power generation with the mobile gas turbine (A) My 143
15 years of gas turbine operation in Venezuela's industry and utilities (A) ..My 147

POWER PLANTS, HYDROELECTRIC. *See also* TURBINES, HYDRAULIC
"Good Hope" hydropower project (A) D 58
Kainji Dam project (A) ....N 77
Khancoban project (A) ....Ag 52
300-MW hydro project (A) ....N 77
Power at Akosombo (A) ....F 66

POWER PLANTS, HYDROELECTRIC (*Continued*)
Pumped storage ....Ag 14; errata, O 72
Rare storage (C) ....O 71
Tube turbine units: their application ..My 118

POWER PLANTS, NUCLEAR. *See also* NUCLEAR FUELS; REACTORS, NUCLEAR
Application of closed-cycle gas turbine system technology to mobile nuclear power plants (A) ....My 147
The case against atomic power (C) ....Jl 78
Compact reactor (A) ....Ag 52
Containment for nuclear reactors (D) Mr 92; (AC) Je 83
Development and operating experience of the ML-1 mobile nuclear power plant (A) ....My 149
Evolution of gas reactor steam generators (A) ....F 71
IAEA sponsors survey: experts meet in Vienna to appraise nuclear power ....O 77
More on nuclear power (C) ....O 71
Nuclear activities in Belgium (A) ....Ja 67
Nuclear electrical power for canal construction ....Ag 22
Nuclear energy: potential for desalting Ap 52
Nuclear plant completes test (A) ....N 76
Nuclear power: competitive (C) ....S 88
A potassium-steam binary vapor cycle for a molten-salt reactor power plant (A) My 149
Prospects for nuclear reactor-MHD commercial power production (A) ....My 149
SGR steam cycles (A) ....Mr 70

POWER PLANTS, SOLAR. *See* SOLAR ENERGY

POWER PLANTS, STEAM
Analysis of cycle with first-stage high-pressure turbine extraction steam for auxiliary turbine drives (A) ....N 86
Boiler-turbine coordination during start-up and loading of large units (A) ....Ja 71
Condensate polishing (A) ....S 70
Cycles for supplying steam to desalting evaporators of dual-purpose power-generation plants (A) ....Ja 71
A new regenerative air heater for power boilers (A) ....Ja 71
Operating experience with Control System's No. 1 unit — Hudson Generating Station (A) ....Ja 72
Power response of modern reheat turbine-generators to load dispatching signals (A) ....Ja 71
Steam-turbine-driven auxiliary generators (A) ....N 85
Trends in steam station design affecting air pollution (A) ....N 86

POWER SUPPLIES
Solid-state equipments for high-power drive control (A) ....Ag 59

POWER TRANSMISSION SYSTEMS
765,000-volt network (A) ....Ja 57

PRAKASH, J.
Magnetohydrodynamic effects in composite bearings (A) ....O 67

PRASAD, R.
Effects of roughness in hydromagnetically lubricated bearings (A) ....Ag 64

PRATT, WILL
Elected Fellow of ASME ....N 117

PRENTING, T. O.
Automatic assembly — the economic considerations (A) ....Ap 86
Automatic assembly: the economic considerations ....Ag 29

PRESSURE TECHNOLOGY. *See also* STRESSES AND STRAINS
Compaction of powders (A) ....My 134
Pressure terminology (A) ....Je 76

PRESSURE TRANSDUCERS. *See* INSTRUMENTS, PRESSURE MEASURING

PRESSURE VESSELS
The Behemoths of Oyster Creek and Nine Mile Point (A) ....D 48
Design and analysis of commercial pressure vessels to 500,000 psi (A) ....Je 76
Experimental determination of onset of yielding in pressure vessels (A) ....Ap 88
Experimental investigations on compound thin-walled pressure vessels (A) ....N 79
An introduction to the ASME unfired pressure vessel code (A) ....Ap 85
Large prestressed concrete vessels for deep-submergence testing (A) ....Ap 79
Optimum thin-wall pressure vessel of anisotropic materials (A) ....S 85
Prestressed concrete reactor vessels ....Jl 34
Theoretical analysis of a compound thin-walled cylindrical pressure vessel for materials with directional properties (A) ....N 79

PRICE, J. F.
Nonsimilar boundary-layer heat transfer of a rotating cone in forced flow (A) Ja 79

PRIEST, HENRY M.
Obituary ....N 119

PRIFTI, W.
Machining with lasers (A) ....Ag 57

PRODUCTION ENGINEERING. *See also* AUTOMATION
Automatic assembly — the economic considerations (A) ....Ap 86
Automatic assembly: the economic considerations ....Ag 29
Maximum profit as the criterion in the determination of the optimum cutting conditions (A) ....Je 75

PROPANE
Propane as an industrial engine fuel (A) Je 65

PROPELLERS
Propeller knots (A) ....D 44
Propellers and shafts (A) ....O 55

PROSEN, S. P.
Composite materials — part three: fiber-reinforced materials ....F 38

PROSSER, D. W.
Turbulence as a producer of noise in proportional fluid amplifiers (A) ....D 68

PROSTHETICS. *See* BIOTECHNOLOGY

PRYOR, D. H.
Turbine-electric drilling rigs — present and future (A) ....N 81

PRZIREMBEL, H.
Measurement of Poisson's ratio for viscoelastic materials in uniaxial compression (A) ....F 77

PUCCI, P. F.
The single-blow transient testing technique for compact heat exchanger surfaces (A) ....Je 69

PULSE-JET ENGINES
Pulse-jet engine as a prime mover (A) Ja 68

PULSE PROPAGATION. *See* WAVE MECHANICS

PUMPS. *See also* PUMP-TURBINES
Design of a canned pump for hazardous liquids (A) ....Ja 75
Design of water-jet pumps, part 1 — experimental determination of optimum design parameters (A) ....F 79
Design of water-jet pumps, part 2 — jet-pump system characteristics (A) Ja 73
Development of a high-temperature molten lithium pump (A) ....Ja 75
Effect of valve design on plunger-pump net positive suction head requirements (A) ....N 80
Influence of oblique channel ends on screw-pump performance (A) ....F 81
In-line pump applications (A) ....N 79
Investigation of volute-impeller interaction in pumps (A) ....Jl 74
A multistage slotted-blade axial flow pump (A) ....F 80
A new approach to the reduction of pump cavitation: the hubless inducer (A) ....Jl 73
Optimization of jet pump systems (A) Jl 74
Pumps and mechanical seals (A) ....N 72
Pumps for liquid-metal flight controls (A) ....Jl 75

PUMPS, CENTRIFUGAL
Development of an elevated-temperature centrifugal pump for a molten-salt nuclear reactor (A) ....Ja 74
An empirical method for calculating radial pressure distribution on rotating disks (A) ....Ja 75
High-head single-stage centrifugal pumps for hydrocarbon services (A) ....N 79
A procedure for calculating the stresses in a centrifugal impeller with cover disk (A) ....F 81
Pump sans leaks (A) ....Ap 70
Slurry with the pump (A) ....F 59
Solids handling pump (A) ....Je 60

PUMP-TURBINES
Operating and maintenance experience with pump-turbines in Brazil (A) ....F 81
Operating and maintenance experience with pump-turbines in the U. S., Italy, and Japan (A) ....F 80

PUNCHING
Mechanics of punching circular holes in materials for data handling (A) ....Ap 87

PURI, N. N.
Liapunov functions and quadratic moments for high-order discrete systems (A) ....Ap 90
Pulse transfer function identification of a linear system by orthogonal networks (A) ....Mr 82

PURYEAR, CAN A.
Engineer — public servant (C) ....S 89

Q

QUADRINI, JOHN A.
Promoted to assistant professor of mechanical engineering, Pratt Institute O 98
QUAN, D.
Design and development of the Orenda OT-4 gas turbine (A) ..... My 143
QUEENER, C. A.
Mechanics of punching circular holes in materials for data handling (A) .... Ap 87
QUIRK, J.
Deep-ocean reactor placement study (A) Ap 79

R

RAASK, E.
Slag-coal interface phenomena (A) .... Mr 87
RADBILL, J. R.
Quasi-linearization solution of the two-component boundary layer on an ablating wall (A) ..... Ja 79
RADCLIFFE, C. W.
Synthesis of plane linkages with use of the displacement matrix (A) ..... O 65
Synthesis of spherical linkages with use of the displacement matrix (A) ..... O 64
RADIATION. *See* HEAT TRANSFER
RADIATION PROCESSING
Gamma radiation source and irradiator design (A) ..... F 71
RADIATORS. *See* HEAT-EXCHANGER EQUIPMENT
RADIO TELESCOPES. *See* ANTENNA SYSTEMS
RADZIMOVSKY, E. I.
Influence on the tooth surface deformation upon the capacity of hydrodynamically lubricated spur gears (A) ..... Ag 64
RAIA, E. C.
Automatic translation of languages .... My 112
Engineering eponyms (BR) ..... N 90
Heat exchanger design (BR) ..... F 83
Thermofluid mechanics (BR) ..... Je 84
RAILROAD CARS
Boxcar hopper car (A) ..... N 72
Covered ore cars and automatic loading and weighing features (A) ..... F 75
Specialized covered hopper cars for the processing industries (A) ..... Mr 85
A standardized covered hopper car for special situations (A) ..... F 74
RAILROAD ENGINEERING. *See also* TRANSIT SYSTEMS
A computer program for determining the effect of design variation on service in railroad wheels (A) ..... F 73
Dynamic analysis of rolling freight cars (A) ..... F 73
Dynamic measurement of rail profile and related locomotive truck motions (A) Jl 71
Grade crossings must go (C) ..... Je 83
High-speed train operation (A) ..... F 75
In-the-door mechanical temperature central system for railroad cars (A) ..... F 74
Lateral loading between locomotive truck wheels and rail due to curve negotiation (A) ..... F 75
Progress in railway mechanical engineering (A) ..... F 74
Progress in railway mechanical engineering ..... N 42
Railroads — new concepts and components (A) ..... Jl 67
Research on the operating stresses in PATH railcar axles, drive systems, wheels and rail joints (A) ..... Jl 72
Use of diaphragms in pneumatic systems (A) ..... F 73
RAILROAD EQUIPMENT
Computerized weighing of railroad freight cars coupled in-motion (A) .. Jl 72
Development and test of the General 70-E truck for BARTD (A) ..... Jl 72
A new approach to unit train equipment (A) ..... Jl 71
Single-axle trucks and articulated connections for multiple-unit, high capacity railway cars (A) ..... Jl 72
RAILROADS
Railway study under way (A) ..... Ag 52
RAMAMOORTHY, M. V.
Quadrant-edge orifice and performance at very high Reynolds numbers (A) .... Mr 91
Quadrant-edge orifice performance under cavitating conditions (A) ..... Jl 75
RAMEY, JAMES T.
Nuclear energy: potential for desalting Ap 52
RANDOLPH, D. C.
Jump conditions in plane linkage analysis (A) ..... Ag 56
RAO, N. S. GOVINDA
Quadrant-edge orifice performance under cavitating conditions (A) ..... Jl 75
RASE, HOWARD F.
Goals of engineering education: 2 — dissenting opinions ..... Ja 40
RATCLIFF, VERN H.
Obituary ..... Ap 121
RATHBUN, FORREST O., JR.
Obituary ..... F 107
RAVNSBECK, FRED V.
Obituary ..... Je 111
RAYMOND, WARD
Cited for 65 years of service ..... Ag 87
REACTORS, NUCLEAR. *See also* POWER PLANTS, NUCLEAR
Development of an elevated-temperature centrifugal pump for a molten-salt nuclear reactor (A) ..... Ja 74
Dragon reactor (C) ..... O 71
Dragon reactor experiment (A) ..... Ag 53
Enrico Fermi atomic power plant — irradiation test facility (A) ..... F 71
Experimental facilities in a high-flux pool-type test reactor (A) ..... Mr 88
Euratom's ECO reactor (A) ..... Je 60
The HFBR (A) ..... Jl 58
Largest heavy-water reactor (A) ..... Ap 77
Manufacture of nuclear cores (A) ..... S 78
Prestressed concrete reactor vessels .... Jl 34
Prestressed concrete structures for large power reactors (A) ..... Mr 88
Progress in boiling water reactors (A) N 86
Pulse reactor (A) ..... Ap 69
Snap-10A reactor operation (A) ..... Mr 88
Snap reactor transient test machine (A) My 153
Study of cable-wrapped pressure vessel for nuclear reactors (A) ..... Mr 88
Transient DNB test on CVTR fuel assembly (A) ..... Mr 88
REALS, R. H.
Automated manufacturing planning (A) Jl 69
REBENFELD, L.
Effect of fiber surface roughness on cohesion of textile assemblies (A) .... Je 76
REDWOOD, MICHAEL L.
Obituary ..... F 107
REECE, JOHN W.
Joined the firm of Gibbs & Hill ..... Je 108
REEVES, J. H.
Preventive maintenance (A) ..... Jl 65
REFRACTORIES
Refinery usage of refractories (A) ..... N 80
Silram and silvaline (A) ..... My 141
REFRIGERATION. *See* HEAT PUMPS
REFUSE. *See* INCINERATORS
REGAN, J. E.
Watertight electrical cable penetrations for submersibles — past and present (A) ..... Ap 81
REID, W. T.
Formation of SO_3 in a noncatalytic combustor (A) ..... Mr 89
Trends in technology and economics of energy from fuels: part 3 — electricity generation, direct conversion, and high-energy fuels (A) ..... Mr 86
RELANDER, K.
Influence of microstructure and heat treatment on impact and creep properties of a low alloy Cr-Mo-V turbine steel (A) ..... My 145
RELATIVITY. *See* MATHEMATICS
RELIABILITY
Reliability and maintainability (Ed) .... F 21
Reliability and maintainability conference, 1966 ..... S 106
Reliability and maintainability: part 1 — the basic problem ..... F 22
Reliability and maintainability: part 2 — automotive: the Ford reliability program ..... Mr 46
Reliability and maintainability: part 3 — aviation: DC-9 design features ..... Ap 56
Reliability and maintainability: part 4 — military: the logistics challenge .... My 125
Reliability and maintainability: part 5 — space: manned interplanetary travel Je 44
Under way: A reliability program to check aging auto parts ..... D 82
Zero defects: it pays ..... N 45
RENEAU, L. R.
Performance and design of straight, two-dimensional diffusers (A) ..... Jl 73
RENNER, HOWARD
Variable-speed drives 2: hydraulic .... Je 37
RENTON, A.
Special fluid power plants (A) ..... Je 68
REPSCHA, ALBERT H.
Elected Fellow of ASME ..... Je 109
RESEARCH
AEC Research Center ..... D 79
Research and its exploitation ..... D 80
RESISTORS
Wrapping flat-type resistors (A) ..... Ap 87
RESNICK, B. T.
Closed Brayton cycle for space power: an assessment (A) ..... My 147
RETORTING
In situ retorting (A) ..... O 56
RETZ, ANDREW M.
Obituary ..... Ag 91
REYNOLDS, S. D., JR.
Carbon-steel, feedwater-heater, tube-to-tube sheet joints (A) ..... Ja 72
REYNOLDS, W. C.
Laminar boundary layer on a rotating circular arc blade (A) ..... F 80
REZY, B. J., JR.
Increase in the maximum heat-release rate and apparent flame strength of opposed-jet diffusion flames under impressed electric fields (A) ..... Mr 86
RHEINGANS, W. J.
Operating and maintenance experience with pump-turbines in Brazil (A) .... F 81
Operating and maintenance experience with pump-turbines in the U. S., Italy, and Japan (A) ..... F 80
RHODES, C. A.
Hydrodynamic lubrication of partial porous metal bearings (A) ..... Mr 85
RICE, C. E.
Precision six-link dwell mechanisms (A) N 84
RICE, J. K.
Water management to eliminate water waste (A) ..... N 82
RICE, JOHN T.
Promoted to associate professor of mechanical engineering, Pratt Institute .. O 98
RICHARD, GEORGE R.
Obituary ..... O 103
RICHARDS, E. G.
Metallurgical considerations involved in the development of nickel-base high-temperature sheet alloys (A) ..... My 145
RICHARDSON, H. H.
A study of fluid squeeze-film damping (A) ..... Mr 84
RICHMOND, F. M.
Effect of vacuum arc remelting of air-melt electrodes on the structure and elevated-temperature properties of a nickel-base gas turbine superalloy (A) My 145
Increasing strength of gas turbine alloys by cold work prior to aging (A) .... My 145
RICHTER, K. E.
Operator training via simulation — large utility pioneers new approach to instruct power-plant personnel (A) Ja 71
RIEGEL, M. S.
A computer program for determining the effect of design variation on service in railroad wheels (A) ..... F 73
RIETZ, CARL A.
Obituary ..... F 107
RIGGS, WILLIAM A.
Obituary ..... F 107
RIGHTMIRE, G. K.
On the analytical and experimental investigation of a hydrostatic, axisymmetric compliant-surface thrust bearing (A) D 64
RIM, K.
Simplified analysis of the bent crank oscillator mechanism (A) ..... O 66
RINGS
Dynamic elastic response of a ring to transient pressure loading (A) ..... S 86
RIPPERGER, EUGENE ARMAN
Elected Fellow of ASME ..... Mr 119
RITCHIE, DOUGLAS G.
Named chief engineer for transducer products, Microdot, Inc. ..... O 101
RIVERS, H. M.
A fresh look at the mechanism of corrosion in boilers (A) ..... Mr 91
RIVERS, W. J.
Film free convection in helium II (A) Ja 79
RIZK, W.
Some large gas turbine developments in Great Britain — past, present, and future (A) ..... My 146
ROA, M. A.
Experimental investigation and confirmation of the reversed heat conduction in natural convection at a thermal leading edge on a vertical wall (A) ..... Mr 81

(A) denotes Abstract; (AC) Author's Closure; (BR) Book Review; (C) Correspondence; (D) Discussion; (Ed) Editorial

ROBERTS, L. R.
A progress report on study of steam turbine erosion by solid particles (A) ..Ja 71
ROBERTS, V. L.
Fluid pressure gradients caused by impact to the human skull (A) .....Je 73
ROBERTSHAW, R. D.
Experimental facilities in a high-flux pool-type test reactor (A) .....Mr 88
ROBINSON, R. R.
Development of a 3000 psi (21.1 kp/sq bmep) continuous-duty diesel engine (A) .....Je 67
ROBINSON, S. T.
Five years' experience with aircraft gas turbines in industrial applications (A) Je 69
ROBINSON, VIRGIL L.
Analytical solution of conduction problems in composite media (A) .....Ja 80
ROBOTS. *See* AUTOMATION
ROCHE, J. A.
Fluidics in process control (A) .....Ag 62
ROCHTFORT, J. D.
Snap reactor transient test machine (A) My 153
ROCKENHAUSER, W.
Prestressed concrete reactor vessels ....Jl 34
Prestressed concrete structures for large power reactors (A) .....Mr 88
ROCKETS
Ablative rocket-nozzle design for earth entry (A) .....Jl 70
Adaptation of the RL10 engine for fluorine-hydrogen application (A) .....Ag 61
Boosters, balloons, ballutes, and parachutes (A) .....F 62
Cast of a hundred .....Ja 55
Colloid propulsion (A) .....O 53
Oncore (A) .....O 56
Pocket rockets (A) .....Ja 60
Seeing (infra)red (A) .....Mr 66
Slush hydrogen (A) .....Ja 54
ROCKET SLEDS
Fast track (A) .....N 65
ROCKING. *See* VIBRATION
RODELY, A. E.
A digital flowmeter without moving parts (A) .....Mr 90
RODENBAUGH, HENRY N.
Obituary .....Je 111
ROEMMELE, HERBERT
Elected Fellow of ASME .....My 176
ROFFMAN, G.
Flueric operation on pressure signals (A) .....F 76
ROGERS, E. L.
Computerized weighing of railroad freight cars coupled in-motion (A) .....Jl 72
ROHMANN, CHARLES P.
Named vice-president — engineering for Fischer and Porter .....D 99
ROHREN, W. M., JR.
Burnout in steam-water flows with axially nonuniform heat flux .....Ja 78
ROHRIG, I. A.
Carbon and carbon-moly steam pipe after long-time service (A) .....Ap 86
Creep-rupture properties of 1.25 Cr-0.5 Mo steel after service at 1000 F (A) Ap 85
ROHSENOW, W. M.
Film boiling of saturated nitrogen flowing in a vertical tube (A) .....Ja 79
ROLLING
Coefficient of friction in cold rolling (A) Je 76
An empirical equation for the strain-rate effect on roll separating force in cold rolling (A) .....Je 75
Experimental investigation of rolling contact (A) .....Ap 81
Rolling of a cylinder on an elastic film (A) .....D 60
ROLLINS, L. G.
The Joy pushbutton miner (A) .....Jl 64
Pushbutton miner .....D 26
ROMZICK, LEO J.
Named superintendent of the Conners Creek Power Plant, Detroit Edison Co. O 100
ROOS, N. H.
Design and operational experience with a direct digital control installation (A) Mr 83
ROOSEN, J. J.
Calorimetric evaluation of heat transference by Admiralty condenser tubes (A) .....Mr 85
ROSS, E. W., JR.
Asymptotic analysis of the axisymmetric vibrations of shells (A) .....Je 74
ROSS, JOHN O.
Obituary .....S 122
ROSS, PHILLIP N.
Named manager of Electric Utility Headquarters Department of Westinghouse Electric Corporation .....O 101
ROTH, B.
On the screw axes and other special lines associated with spatial displacements of a rigid body (A) .....O 63
ROTORS
Balancing of high-speed machinery (A) O 63
Bistable vibration of rotors in bearing clearance (A) .....Mr 89
Subharmonic vibration of rotors in bearing clearance (A) .....Ag 56
ROTTA, J. C.
Recent developments in calculation methods for turbulent boundary layers with pressure gradients and heat transfer (A) .....S 86
ROTTY, RALPH M.
Appointed dean of Old Dominion College's School of engineering .....S 116
ROULEAU, WILFRED T.
Appointed professor of mechanical engineering at Carnegie Institute of Technology .....Je 108
Hydrodynamic lubrication of partial porus metal bearings (A) .....Mr 85
ROUND, BYRON J.
Named manager of mechanical design engineering, Combustion Engineering O 98
ROUSH, C. W.
Silicone rubber comes of age (A) .....F 77
ROWE, G. W.
Measurement of boundary lubricant viscosity at metal-deformation pressure (3000 atm, 20 tons/sq in) (A) .....O 67
ROWLEY, D. S.
Erosion of various materials by liquid-entrained abrasives (A) .....Ap 88
ROWLEY, LOUIS N., JR.
President of ASME .....N 114
RUBBER
Dynamic characterization of automotive rubber (A) .....F 78
Silicone rubber comes of age (A) .....F 77
RUDISILL, DIETZ A.
Obituary .....O 103
RUFER, C. E.
Analysis of two-phase, one component stratified flow with condensation (A) Mr 81
RUSHMER, R. F.
Structural analysis of an arteriole by the direct stiffness method (A) .....Je 73
RUSSELL, J. A.
Lubricant effects on fatigue in a stationary concentrated contact under vibratory loading (A) .....Mr 79
RUSSIA
From Russia with tools (A) .....S 73
RUST, MACK D.
Obituary .....Je 111

S

SADUNAS, A. A.
Heat transfer and pressure distribution in open-cavity flow (A) .....Ja 77
SAGI, C. J.
Effects of wall shape on flow regimes and performance in straight, two-dimensional diffusers (A) .....Jl 75
SAHLMANN, LOUIS H.
Flexible couplings .....D 18
SALERNO, V. L.
Effect of structural damping on the forced vibrations of cylindrical sandwich shells (A) .....Ap 81
SALIBY, ANDREW
Inch-metric dimensioning .....Je 50
SALVINSKI, R. J.
Advanced valve technology for spacecraft (A) .....Jl 70
SAMPSON, R. J.
Slider-crank charts for offset; crankshafts (A) .....D 62
SANDBERG, R. O.
Forced-convection heat transfer to superheated steam at high-pressure and high Prandtl numbers (A) .....Ja 76
SANBORN, L. B.
Application considerations for shaft sealing systems of centrifugal compressors (A) .....Ag 61
SANDOR, G. N.
High-order plane motion theories in kinematic synthesis (A) .....O 66
SANDWICH MATERIALS. *See* COMPOSITE MATERIALS
SANN, R. I.
Reciprocal theorem for harmonic oscillations of an elastic isotropic medium (A) .....F 73
SANTALO, MIGUEL A.
Obituary .....Je 111
SARPKAYA, T.
Experimental determination of the critical Reynolds number for pulsating Poiseuille flow (A) .....Jl 76
Named Thomas L. Fawick Professor of Mechanical Engineering at the University of Nebraska .....S 114
SARTI, E.
An extension of the describing-function method (A) .....Mr 82
SAUVAGE, J. E.
Appointed manager of engineering research of Swift & Company Research and Development Center .....Je 107
SAWCZUK, A.
Plastic analysis of rib-reinforced cylindrical shells (A) .....D 67
SAWYER, J. W.
Marine gas turbine (A) .....My 144
The marine gas turbine .....O 22
U. S. Navy's marine gas turbines (A) My 143
SAWYER, WILLITS H.
Obituary .....Je 111
SAWYER, W. T.
Design considerations for marine gas turbine ducting (A) .....My 143
SCANLAN, R. H.
Noise in rolling-element bearings (A) ..F 72
SCARDINO, F. L.
Effect of fiber surface roughness on cohesion of textile assemblies (A) .....Je 76
SCHAEFFER, G.
Effect of section size on notch strength (A) .....Je 72
SCHAFFNER, JOHN W.
Obituary .....O 103
SCHARP, C. B.
Thermal cycle analysis by variables — a universal approach for digital computers (A) .....F 70
SCHERBERG, M. G.
Experimental investigation and confirmation of the reversed heat conduction in natural convection at a thermal leading edge on a vertical wall (A) ....Mr 81
SCHERESCHEWSKY, P. L.
The 20-22 Mw free-piston diesel generating set at Chartres (A) .....Je 65
SCHETZ, J. A.
Analytic approximations of boundary-layer problems (A) .....S 86
SCHEUBLE, PHILIP A., JR.
Elected president of Industrial Marketing Associates, Inc. .....S 116
SCHILLER, FRANCIS
Diplom ingenieur (C) .....Je 82
SCHILLER, WILLIAM A.
Obituary .....Mr 121
SCHILLING, R. J.
An interferometric study of mass transfer from a vertical plate at low Reynolds numbers (A) .....Ja 80
SCHMID, R.
Expanders in chemical and physical processes (A) .....My 150
SCHMIDT, ROBERT
Elected president of Industrial Mathematics Society, Detroit, Mich. .....Ag 87
SCHMOCH, O.
Gas turbine with utilization of exhaust heat for district heating (A) .....My 150
SCHNITZER, A. J.
Obituary .....Jl 112
SCHOANHALS, R. J.
Dynamic analysis and experimental measurements for a single-fluid heat exchanger (A) .....Ja 81
SCHOLES, DANIEL R.
Obituary .....N 119
SCHULTE, CHARLES A.
Obituary .....O 103
SCHULTHEISS, R. A.
Composite materials — part two: layered materials .....F 35
SCHULZ, E. M.
Received a Distinguished Graduate Award from the University and the College of Engineering, Austin, Texas S 114
SCHUMACKER, R. A.
Applying the wear model to design problems (A) .....S 82
An engineering model for wear (A) ....S 82
Special considerations relating to the engineering model for wear (A) .....S 83
SCHUSTACK, ROBERT E.
Operating experience with cryogenic turboexpanders (A) .....F 76

SCHWANHAUSSER, EDWIN J.
Elected Fellow of ASME ..... S 120
SCHWARTZ, FRANK L.
Goals of engineering education (C) .... Je 78
SCHWARTZ, L.
Minimization of solar radiation pressure effects for gravity-gradient stabilized satellites (A) ..... Mr 82
SCHWARTZ, M. D.
A sufficient condition for the existence of an admissible control for a class of optimization problems (A) ..... Mr 82
SCHWARZ, H.
Application of gas bearings to closed-system Brayton-cycle turbomachinery — recent accomplishments and potential problem areas (A) ..... My 147
SCHWEITZER, PAUL HENRY
Elected Fellow of ASME ..... Ap 119
SCHWINGHAMER, R. J.
New developments in magnetomotive rming and a new concept — magnetohydraulic forming (A) ..... S 83
SCOLLON, T. REED
Named chairman of U. S. National Committee World Power Conference ..... S 116
SCRAMJETS. *See* AIRCRAFT ENGINES
SCREWED JOINTS. *See* JOINTS
SCREWS
New screws (A) ..... N 70
SCROGGIN, J. T.
Use of the collineation pole circle in the synthesis of four-bar mechanisms (A) D 63
SEALS
Application considerations for shaft sealing systems of centrifugal compressors (A) ..... Ag 61
Constant sealing forces (A) ..... D 47
Corrosion at the seal ..... N 48
Elastomeric seals for valves Ap 47; (D) Jl 78
An evaluation of the carbides as axial mechanical seal face materials (A) ..... Jl 64
Hydrostatic seals for turbopumps (A) Jl 73
Pumps and mechanical seals (A) ..... N 72
The rolling seals (A) ..... O 54
Seal design parameters and their effect on seal operating temperature (A) ..... Ag 62
Seals, hydro and helix (A) ..... Je 62
Selecting materials to cope with corrosive properties of seal applications (A) Ag 62
SEAMANS, ROBERT C., JR.
Becomes deputy administrator of NASA F 105
SEAY, J. D., JR.
Promoted to assistant general superintendent — engineering and services, Tennessee Eastman Company ..... D 100
SEBAN, R. A.
Effect of suction and injection on the heat transfer and flow in a turbulent separated airflow (A) ..... Mr 80
SEBASTIAN, EDMUND J.
Joined P & W Engineers, Inc. as a new vice-president — mechanical engineering ..... D 100
SECOND-HAND MACHINERY
Second-hand machinery imports may help developing countries industrialize at minimum cost (A) ..... Mr 97
SEELER, HENRY W.
Obituary ..... S 122
SEELEY, C. T.
Development and operating experience of the ML-1 mobile nuclear power plant (A) ..... My 149
SEETHARAMIAH, K.
Quadrant-edge orifice and performance at very high Reynolds numbers (A) Mr 91
Quadrant-edge performance under cavitating conditions (A) ..... Jl 75
SEGEL, L.
On the lateral stability and control of the automobile as influenced by the dynamics of the steering system (A) Mr 90
SEGRETO, A. J.
Measurement of Poisson's ratio for viscoelastic materials in uniaxial compression (A) ..... F 77
SEIPPEL, CLAUDE
Elected Fellow of ASME ..... Mr 120
Evolution of compressor and turbine bladings in gas turbine design (A) Je 70
SEISMOLOGY
Notes from the underground (A) ..... O 53
SELIG, ERNEST T.
Appointed manager of the Soil Mechanics Section at IIT Research Institute S 114
SELLERS, ADRIAN I.
Obituary ..... F 107
SEROVY, G. K.
Recent progress in aerodynamic design of axial-flow compressors in the U. S. (A) ..... Je 70
SERVOMECHANISMS
Externally pressurized bearings as servomechanisms. I — The simple thrust bearing (A) ..... O 66
Serpentine servos (A) ..... Ja 61
SERVOY, G. K.
Effects of free-stream turbulence and pressure gradient on flat-plate boundary-layer velocity profiles and on heat transfer (A) ..... N 87
SEWARD, HERBERT L.
Obituary ..... O 103
SHAFER, ALBERT H.
Obituary ..... S 122
SHAFFER, B. W.
Reciprocal theorem for harmonic oscillations of an elastic isotropic medium (A) ..... F 73
SHAHWAN, F. O. F.
Physical model of a 3-constant isotropic elastic material (A) ..... Ap 83
SHAMP, F. F.
Automatic batch flow in pipelines ..... Mr 52
SHANG, J. C.
Dynamic analysis of rolling freight cars (A) ..... F 73
SHAPIRO, W.
Improved method for numerical solutions of the general incompressible fluid film lubrication problem (A) .... S 87
SHARETTS, ROBERT R.
Plastic coatings: the fluidized-bed process ..... Mr 56
SHAVIT, G.
Experiments on laminar flow development in rectangular ducts (A) ..... Jl 73
SHAW, M. C.
Ultrasonic grinding economics (A) .... Je 75
SHEETS
Instability strains in plane sheet under biaxial stress (A) ..... S 86
SHEETS, HERMAN E.
A multistage slotted-blade axial flow pump (A) ..... F 80
SHEKAR, S. CHANDRA
Manufacturing costs (C) ..... N 88
SHELDON, G. L.
Mechanism of material removal in the erosive cutting of brittle materials (A) ..... Ap 86
On the ductile behavior of nominally brittle materials during erosive cutting (A) Ap 87
SHELLS. *See also* CONES
Analysis of shells of revolution with arbitrary meridians (A) ..... N 81
Asymptotic analysis of the axisymmetric vibrations of shells (A) ..... Je 74
Axially symmetric motions of a two-layered Timoshenko-type cylindrical shell (A) ..... D 68
Deformation of open spherical shells under arbitrarily located concentrated loads (A) ..... Ap 83
Elastic response of thin spherical shells to axisymmetric blast loading (A) N 85
Interaction of critical pressures and critical concentrated loads acting on shallow spherical shells (A) ..... My 152
Longitudinal impact of a semi-infinite, cylindrical viscoelastic shell (A) .... Ap 82
Plastic analysis of rib-reinforced cylindrical shells (A) ..... D 67
Point load on a shallow elliptic paraboloid (A) ..... N 85
Response of cylindrical sandwich shells to moving loads (A) ..... D 69
Some experiments on the vibration of a hemispherical shell (A) ..... D 68
Stress concentration in nonlinear creep of a simple shell (A) ..... S 84
SHERWOOD, A. WILEY
Elected Fellow of ASME ..... N 117
SHERWOOD, ROBERT S.
Named vice-president of engineering of Gleason Works ..... O 98
SHILS, LEE H.
Promoted to chief engineer of freight car division of General American Transportation Corporation ..... Je 108
SHIPPY, D. J.
Geometric analog for transient heat conduction (A) ..... Ja 77
SHIPS. *See also* GROUND-EFFECT MACHINES; MARINE ENGINEERING
Marine gas turbines (A) ..... S 78
Ship shapes (A) ..... Jl 56
A Swedish all-gas-turbine torpedo boat with controllable pitch propellers (A) My 144
Turbine boat (A) ..... Je 56
SHIR, C. C.
Lubrication of a porous bearing — Reynolds' solution (A) ..... D 69
SHOCK TUBES
Bursting characteristics of thin metal diaphragms in shock tubes (A) ..... Ap 86
SHORE, JUSTIN O.
Obituary ..... Je 111
SHORT, R. J.
Elected Fellow of ASME ..... N 117
SHOUDY, WILLIAM ALLEN
Obituary ..... O 103
SHOUMAN, A. R.
Prewhirl an added degree of freedom to the designer of small single-shaft gas turbines (A) ..... Je 71
SHUKLA, J. B.
Effects of roughness in hydromagnetically lubricated bearings (A) ..... Ag 64
SHUTTLEWORTH, A.
Available mechanisms for deposition from a combustion gas stream (A) Mr 89
Deposition of oil ash constituents from high-temperature gas streams (A) Mr 89
Vanadium pentoxide deposition from combustion gases (A) ..... Mr 89
SIAS, R. DOUGLAS
How to reduce the noise hazard ..... O 26
SIDLER, PAUL R.
Elected Fellow of ASME ..... Mr 120
SIGDA, JOSEPH R.
Obituary ..... S 122
SIH, G. C.
Three-dimensional stress distribution around an elliptical crack under arbitrary loadings (A) ..... S 86
SILBERBERG, I. H.
Prediction of pressure loss during two-phase horizontal flow in two-inch pipe (A) ..... O 67
SILVER, F.
The breath of life (A) ..... Ap 88
SILVERMAN, LESLIE
Obituary ..... My 179
SILVERMAN, MELVIN
Elected vice-president — operations of Clavier Corporation ..... Ap 117
SIMILITUDE. *See* MATHEMATICS
SIMKIN, D. J.
Ablative rocket-nozzle design for earth entry (A) ..... Jl 70
SIMON, R.
Dimensionless parameter reliability analysis and application to mechanical creep (A) ..... Ap 85
SIMON, WAYNE E.
Won honors in technical publications competition among scientists and engineers at Martin Company ..... S 114
SIMONDS, R. L.
Properties, processing, and problems in manufacturing padding for automotive dash boards (A) ..... F 78
SIMPSON, BRUCE H.
Reliability and maintainability: part 2 — automotive: the Ford reliability program ..... Mr 46
SINCLAIR, G. M.
Effect of temperature on cyclic creep (A) ..... Je 72
SINCLAIR, WILLIAM
Obituary ..... Jl 112
SIRICO, J. L.
An engineering model for wear (A) .... S 82
Applying the wear model to design problems (A) ..... S 82
Special considerations relating to the engineering model for wear (A) ..... S 83
SISSOM, L. E.
Heat exchange in fluid-dense particle moving beds (A) ..... N 87
SISTO, FERNANDO, JR.
Appointed head of the department of mechanical engineering at Stevens Institute of Technology ..... Ap 119
SKALAK, R.
Impact on the surface of a compressible fluid (A) ..... Ap 80
SKILLMAN, ARTHUR D.
Named chief engineer of industrial services division of Albert C. Martin and Associates ..... Je 107
SKREINER, M.
Acceleration analysis of spatial linkages using axodes and the instantaneous screw axis (A) ..... O 64
SLATTER, B. H.
Marine development of the Olympus engine (A) ..... My 142

(A) denotes Abstract; (AC) Author's Closure; (BR) Book Review; (C) Correspondence; (D) Discussion; (Ed) Editorial

SLAYMAKER, R. R.
Squeeze-film load-carrying capacity (short bearing approximation) (A) F 73
SLITER, J. A.
A computer program for determining the effect of design variation on service in railroad wheels (A) ..... F 73
SMALL, M. M.
140-foot radio telescope (A) ..... Jl 65
SMELOFF, E. A.
Design of heart valves ..... Jl 22
Design of prosthetic heart valves (A) Ap 89
SMITH, ARVIN H.
Energetics 5: photovoltaic power ..... O 38
SMITH, B. A.
Received a CEMA Merit Award for his work in development and editing of *Bell Conveyors for Bulk Materials* ..Je 108
SMITH, B. H.
Selecting transmission systems for high-speed lightweight applications (A) Jl 66
SMITH, G. H.
Magnetic reaction analyzer — a new tool for maintenance inspection and control (A) ..... Jl 66
SMITH, J.
Bureau of Mines progress in developing open and closed-cycle coal-burning gas turbine power plants (A) ..... My 148
SMITH, J. E.
Investigation of embedment anchors for deep-ocean use (A) ..... N 78
Supersonic expansion in radial-inflow turbine nozzle vanes (A) ..... Ja 68
SMITH, J. F. DOWNIE
Goals of engineering education: part 4 — positions and comments ..... Mr 64
SMITH, J. T.
Internally generated noise from gas turbine engines. Measurement and prediction (A) ..... My 151
SMITH, K. U.
Application of a hybrid computer system to human factors research (A) Je 73
SMITH, L. F.
Turbomachinery design analysis of a 500-kw closed-Brayton-cycle power system (A) ..... My 149
SMITH, L. H., JR.
Radial-equilibrium equation of turbomachinery (A) ..... Ja 69
SMITH, O. GLENN
Burnout in steam-water flows axially nonuniform heat flux (A) ..... Ja 78
SMITH, P. G.
Development of an elevated-temperature centrifugal pump for a molten-salt nuclear reactor (A) ..... Ja 74
SMITH, R. A.
Design considerations for marine gas turbine ducting (A) ..... My 143
SMITH, R. I.
Experience with gas turbines for peaking and emergency power (A) ..... N 86
SMITH, ROBERT B.
Joined staff of Columbus Laboratories of Battelle Memorial Institute ..... S 116
SMITH, ROBERT L.
Elected to board of directors of New Jersey Council for Research and Development ..... S 116
SMITH, T. C.
Mechanics of punching circular holes in materials for data handling (A) ....Ap 87
SMITH, V. J.
Turbomachinery design analysis of a 500-kw closed-Brayton-cycle power system (A) ..... My 149
SMITH, W. E.
Relationship of prior creep exposure to strength of wrought Udimet 700 nickel-base alloy (A) ..... Ap 85
SMYTH, WILLIAM A.
Appointed assistant manager of industrial product sales for Atlas Copco, Inc. ..... O 98
SNAPP, RALPH B.
Presented the George W. Melville Award by the U. S. Navy Marine Engineering Laboratory ..... O 98
SNOGREN, R. C.
Surface treatment of joints for structural adhesive bonding (A) ..... Ag 56
SNOVEL, ELLIS R., JR.
Obituary ..... N 119
SNOW, A. L.
Low-cycle fatigue of large-diameter bolts (A) ..... O 68
SNOW, WARREN S.
Appointed training manager for Crompton & Knowles Corporation's Worcester, Mass. division ..... Ap 116
SNYDER, WARREN E.
Appointed vice-president of engineering and research for American Bosch activities of American Bosch Arma Corporation ..... O 101
SODERBERG, C. RICHARD
Goals of engineering education (C) ....Je 80
SODERQUIST, LESLIE E.
Elected Fellow of ASME ..... Mr 120
SOLAR BATTERIES. *See* SOLAR ENERGY
SOLAR CELLS. *See* SOLAR ENERGY; SPACE AND SPACE VEHICLES
SOLAR ENERGY
Energetics 5: photovoltaic power ..... O 38
Factors affecting solar-still performance (A) ..... Ap 90
Periodic transfer of solar energy in the earth (A) ..... Ap 90
Solar energy progress report (A) ..... Ap 89
Solar power: reality or vision ..... Mr 42
Solar stills (A) ..... Ap 76
Role of solar furnaces in the processing of extraterrestrial resources (A) ....Ap 90
Sun ship (A) ..... Ja 67
Three solar houses (A) ..... Ap 90
SOLAR STILLS. *See* WATER DESALINATION
SOLDAN, HENRY M.
Obituary ..... Ap 121
SONAR
Detection technique ..... S 99
SONI, A. H.
Design of the spherical drag-link mechanism (A) ..... O 63
A survey of three-dimensional mechanisms with one general constraint (A) ..... D 61
SONICS
The other uses of sound (A) ..... Je 58
SORKIN, BURTON
Requesting capital funds ..... D 32
SORTAIS, H. C.
Experimental study of hydrostatic extrusion (A) ..... Ap 84
SOUND GENERATORS
Flaming sound (A) ..... Mr 66
SPACE AND SPACE VEHICLES. *See also* HEAT TRANSFER; ROCKETS
Advanced valve technology for spacecraft (A) ..... Jl 70
Analytical prediction of spacecraft radiator performance (A) ..... Ja 80
An anomaly (C) ..... Ag 67
Apollo-Saturn V assembly and launch facility at Cape Kennedy given the Outstanding Civil Engineering Achievement Award for 1966 ..... D 78
Chicken-wire satellite (A) ..... N 73
Colloid propulsion (A) ..... O 53
A designer's look at Mariner IV's configuration and mechanical design (A) ..... Jl 71
A designer's look at the Mariner IV's temperature-control subsystem (A) Jl 69
Extramundane ..... N 95
HEOS (A) ..... S 78
High-temperature testing of reentry bonds (A) ..... Ag 60
The ice engine (A) ..... N 71
In small measure (A) ..... Ja 61
Lightweight solar panel deployment mechanisms for spacecraft (A) ..... D 61
Low thrust reaction jet performance (A) ..... Mr 82
Minimization of solar radiation pressure effects for gravity-gradient stabilized satellites (A) ..... Mr 82
The Moon belongs to everyone: UN committee tackles problem of law for extraterrestrial activity ..... N 94
No place to hide ..... N 95
Orbital dynamics of space vehicles (BR) ..... Jl 81
Rites of passage (A) ..... O 50
Solar damage, solar cure (A) ..... Ja 53
Space agreement (A) ..... Je 61
Star stuck (A) ..... F 58
Unmanned trajectories (A) ..... N 63
Zero-*g* and the forces of Coriolis (A) My 134
SPANGLER, E. B.
Dynamic measurement of rail profile and related locomotive truck motions (A) ..... Jl 71
SPAR, CHARLES
Hydraulic fluids ..... F 49
SPARK MICROENGRAVING
Spark microengraving (A) ..... O 59
SPARKS, C. R.
Experimental analysis of gas turbine meter performance (A) ..... N 80
SPARKS, R. E.
Design problems in the artificial kidney (A) ..... Ag 58
SPARROW, E. M.
Experiments on laminar flow development in rectangular ducts (A) ..... Jl 73
Flow and heat transfer in ducts of arbitrary shape with arbitrary thermal boundary conditions (A) ..... Ja 77
Off-specular peaks in the directional distribution of reflected thermal radiation (A) ..... Mr 80
Solution of heat conduction problems by probability methods (A) ..... N 87
Turbulent heat transfer in the separated, reattached, and redeveloped regions of a circular tube (A) ..... Ja 77
Turbulent pipe flow of an internally heat generating fluid (A) ..... Ja 78
SPEAR, G. M.
Adjustment characteristics of spiral bevel and hypoid gears (A) ..... D 60
SPEAR, ROBERT D.
Elected Fellow of ASME ..... Ag 88
SPEARMAN, GUY M.
Obituary ..... O 103
SPENCER, J. D.
Fiber optic and strain probe mass-flux meters for gas-solids suspensions (A) ..... Jl 74
SPENGOS, ARIS C.
Experimental investigation of rolling contact (A) ..... Ap 81
SPERRY, ELMER A., JR.
Elected Fellow of ASME ..... Je 109
SPILLMANN, W.
Closed-cycle gas turbine for nonconventional applications (A) ..... My 147
SPOONER, C. W.
Diesel propulsion on Great Lakes ships (A) ..... Je 66
SPOONER, G. D.
The mechanical engineering of electric motors ..... Jl 27
SPORN, PHILIP
Power: nuclear vs. conventional ..... Je 18
Received honorary Doctor of Laws degree at Columbia University ..... D 100
SPRAGGINS, NEWTON F.
Obituary ..... F 107
SPRAGUE, R. A.
Effect of creep exposure on the fracture toughness of two low-alloy steels (A) ..... Ap 84
SPRINGER, KARL
Elected chairman of new ASME San Antonio Section ..... D 99
STABILITY
On nonconservative stability problems of elastic systems with slight damping (A) ..... My 152
On the almost sure stability of linear stochastic distributed-parameter dynamical systems (A) ..... Ap 82
STACHIEWICZ, J. W.
Influence of tube orientation on combined free and forced laminar convection heat transfer (A) ..... Ja 80
STACHIW, J. D.
Design, fabrication, and testing of acrylic pressure hulls for manned vehicles (A) ..... Ap 78
STACKS. *See* CHIMNEYS
STAINER, WILLIAM A.
Obituary ..... N 119
STANTON, WALLACE M.
Elected a vice-president of Ingersoll-Rand Company ..... O 98
STARKEY, N. E.
Long-life base load service at 1600 F turbine inlet temperature (A) ..... My 146
STARKEY, W. L.
Training 1970's design engineer ..... My 16
STARRETT, P. S.
Survey of information concerning the effects of nonstandard approach conditions upon orifice and venturi meters (A) ..... Mr 91
STEAM
International Steam Conference, 1966 Jl 91
STEAM TRACING SYSTEMS
A report on steam tracing systems (A) N 80
STEAM TURBINES. *See* TURBINES
STEAM-WATER MIXTURES. *See* BOILING
STEARNS, R. S.
Factors affecting the viscosity of lubricants at low temperature (A) ..... Jl 67
STECH, E. L.
A descriptive model of lamellar bone anisotropy (A) ..... Je 74
STEEL. *See also* IRON AND STEEL INDUSTRY; METAL TESTING
Ball-bearing steelworks (A) ..... O 59
BOP (A) ..... S 74
Continuous pickling line (A) ..... My 140

STEEL (*Continued*)
Creep-rupture properties of 1.25 Cr-0.5 steel after service at 1000 F (A) ....Ap 85
Effect of creep exposure on the fracture toughness of two low-alloy steels (A) Ap 84
Effect of strain rate on yielding in high-strength steels (A) ....Ap 85
Fatigue of hardened steel (A) ....Je 49
Impact strength of austenitic stainless-steel welds at −320F — effect of composition, ferrite content, and heat treatment (A) ....Ap 84
Influence of microstructure and heat-temperature on impact and creep properties of a low alloy Cr-Mo-V turbine steel (A) ....My 145
New armor (A) ....My 131
New steel mill is Japan's largest (A) ....D 59
New steel plant (A) ....F 67
Nine percent nickel steel (A) ....Ap 72
Relationship of prior creep exposure to strength of wrought Udiment 700 nickel-base alloy (A) ....Ap 85
Silram and silvaline (A) ....My 141
Stability of modified type 316 austenitic steels for valve applications at elevated temperatures (A) ....Ap 88
Steel exports up (A) ....Jl 61
Steel industry imports in Japan (A) ....Ja 67
Stress-corrosion susceptibility of high-strength steel, in relation to fracture toughness (A) ....Je 72
Unpickled steel (A) ....N 66

STEEN, R. C.
Mechanization of bobbin-wound coils (A) ....Ap 87

STELLWAGEN, ROBERT H.
Obituary ....O 103

STEPHENSON, J. M.
Temperature and scale effects upon cavitation and flashing in free and submerged jets (A) ....F 81

STEPHENS, J. O.
Advanced gas turbines for combined-cycle power plants (A) ....My 151

STERNLICHT, B.
Closed-cycle turbomachinery (A) ....My 149
Comparison of dynamic and static power conversion for undersea missions (A) My 149
Thermal distortion of spiral-grooved gas-lubricated thrust bearing due to self-heating (A) ....D 64
Modern gas-bearings turbomachinery
part 1: the state-of-the-art ....Ja 24
part 2: research and application ....F 42

STETSON, RALPH W.
Obituary ....Je 111

STEVER, H. GUYFORD
Received an honorary LLD degree from Lafayette College ....Je 108

STEVERDING, B.
Boundary-layer cooling by spattered particles (A) ....N 87
A general method to increase the heat of ablation and the performance of injection cooling (A) ....Ja 78

STEWART, J. D.
Pyrolytic graphite (A) ....S 83

STEWART, O. W.
Periodic transfer of solar energy in the earth (A) ....Ap 90

STEWART, T. L.
Experimental measurement of stresses while laying pipe offshore (A) ....N 83

STICHA, E. A.
Stability of modified type 316 austenitic steels for valve applications at elevated temperatures (A) ....Ap 88

STOCKDALE, ROBERT B.
Appointed director of marketing — industrial controls division, General Precision, Inc. ....D 98

STOECKLY, E. E.
Development of the General Electric LM 1500 gas turbine as a marine power plant (A) ....My 145
Jet engine: marine conversion ....Ja 44

STONE, ROBERT H.
Named manager of automatic equipment sales, Ransburg Electro-Coating Corporation ....O 98

STOWELL, D. T.
Design, fabrication, and testing of acrylic pressure hulls for manned vehicles (A) ....Ap 78

STRAINERS
Pipeline strainers (A) ....Ag 49

STRASSER, ROLLAND J.
Obituary ....Ap 121

STRAUSS, HOWARD E.
Named assistant dean of the State University at Buffalo School of Engineering D 100

STREAK CAMERAS. *See* CAMERAS

STRENGTH OF MATERIALS
Evaluation of high-strength materials for use in severe environments (A) ....N 82

STRESS CRACKING
Paths for stress cracking (A) ....Ag 43

STRESSES AND STRAINS. *See also* FRACTURE MECHANICS; THERMAL STRESSES
Analysis of a semi-infinite strip with constant stress flanges under concentrated loads (A) ....O 69
Compliance under a small torsional couple of an elastic plate pressed between two identical elastic spheres (A) S 85
Concentrated force near a smooth circular inclusion (A) ....D 69
Contact stresses between a rigid indenter and a viscoelastic half-space (A) ....N 84
Cumulative damage and effect of mean strain in low-cycle fatigue of a 2024-T351 aluminum alloy (A) ....Ap 85
Cyclic strain fatigue of K-Monel (A) Ag 65
Determination of stresses in rolling-contact elements (A) ....D 65
Diffractions and horizontal shear waves by a parabolic cylinder and dynamic stress concentration (A) ....D 68
Dynamic elastic response of a ring to transient pressure loading (A) ....S 86
Effect of lateral hydrostatic pressure on the instability of elastic solids, particularly beams and plates (A) ....S 86
Effect of strain rate on yielding in high-strength steels (A) ....Ap 85
Effect of the rotation of the stress axes on the yield criterion of prestrained materials (A) ....Ap 84
Elastic-plastic solutions for notched shafts in torsion (A) ....Je 74
Experimental measurement of stresses while laying pipe offshore (A) ....N 83
Instability strains in plane sheet under biaxial stress (A) ....S 86
An investigation of the stresses in welded tubular connections (A) ....Ap 88
Measurement of Poisson's ratio for viscoelastic materials in uniaxial compression (A) ....F 77
Middle of three (A) ....F 64
On some problems in transversely isotropic elastic materials (A) ....Je 74
Relaxation of internal forces in a wound reel of magnetic tape (A) ....Ap 82
Response of cylindrical sandwich shells to moving loads (A) ....D 69
Shear coefficient in Timoshenko's beam theory (A) ....S 85
Shock waves produced by small stress increments in annealed aluminum (A) N 84
Slip strains and stresses in polycrystalline aggregates under cyclic load (A) ....My 152
Strain-gradient effects around cylindrical inclusions and cavities in a field of cylindrically symmetric tension (A) Je 74
Stress concentration in nonlinear creep of a simple shell (A) ....S 84
Stress distribution in bonded dissimilar materials containing circular or ring-shaped cavities (A) ....Ap 81
Stress intensification near a semi-infinite-rigid-smooth strip due to diffraction of plastic waves (A) ....D 69
Stresses in an infinite strip containing a semi-infinite crack (A) ....S 84
Three-dimensional stress distribution around an elliptical crack under arbitrary loadings (A) ....S 86

STRIKE, CLIFFORD S.
Received "Alumni Honor Award for Distinguished Service in Engineering" for 1966 from University of Illinois College of Engineering ....Ap 119

STRIMBECK, D. C.
Bureau of Mines progress in developing open and closed-cycle coal-burning gas turbine power plants (A) ....My 148

STRIPS
Analysis of a semi-infinite strip with constant stress flanges under concentrated loads (A) ....O 69
Stresses in an infinite strip containing a semi-infinite crack (A) ....S 84

STRODTMAN, C. L.
Stability of a squeeze-film journal bearing (A) ....D 66

STROHMEYER, C., JR.
Starting and operating once-through steam generators (A) ....Ja 72

STRONG, PETER F.
Method of zones for the calculation of temperature distribution (A) ....Ja 76

STRUCTURAL ENGINEERING
Machine can determine failure of materials and soil ....Ag 72

STRUTTMANN, H. S.
Promoted to position of rolling mill development engineer, Industrial Division, The Timken Roller Bearing Company O 98

STUBBS, WILLIAM F.
Obituary ....Ag 91

STUBNER, A. W.
Supersonic cascade tunnel used to evaluate compressor blade performance (A) Ja 68

STURGES, THOMAS L.
Obituary ....D 103

STYRNA, S.
Steam-turbine-driven auxiliary generators (A) ....N 85

SUAREZ, M. G.
Large prestressed concrete vessels for deep-submergence testing (A) ....Ap 79

SUBMARINES. *See also* UNDERWATER RESEARCH AND TECHNOLOGY
Fluorocarbon coatings for submarine ball valves (A) ....Ag 58
A full-scale, lighter-than-air submarine simulator system (A) ....Ap 80
Potential flow solution of propeller-driven jets used for submarine depth control (A) ....Jl 74
Submarine and the force of Lorentz (A) N 62
Watertight electrical cable penetrations for submersibles — past and present (A) ....Ap 81

SUDDUTH, HENRY N.
Obituary ....My 179

SUH, C. H.
Synthesis of plane linkages with use of the displacement matrix (A) ....O 65
Synthesis of spherical linkages with use of the displacement matrix (A) ....O 64

SULLIVAN, GEORGE L.
Obituary ....S 122

SUMMERHAYS, LOUIS J.
Obituary ....Ag 91

SUPERCHARGERS
Method of turbocharging with special reference to large two-stroke diesel engines (A) ....Je 65
Tests to examine high-pressure pulse charging on a two-cycle diesel engine (A) ....Je 67

SUPERCONDUCTORS. *See* CRYOGENICS

SURFACES
Modern surfaces (A) ....Je 52

SUTHERLAND, W. A.
Heat-transfer in parallel rod arrays (A) Mr 80

SUTTON, GEORGE W.
Joined the staff of Avco-Everett Research Laboratory as a principal research engineer ....Je 108

SUZUKI, S.
Dynamic elastic response of a ring to transient pressure loading (A) ....S 86

SVENSON, F. C.
Ablative rocket-nozzle design for earth entry (A) ....Jl 70

SWEARINGEN, JUDSON S.
Turboexpanders — loading methods and control (A) ....F 75

SWETTING, J. RODNEY
Received ASME 50-year membership pin S 116

SWETZ, S. D.
Flow losses in abrupt enlargements and contractions (A) ....F 70

SWIM, W. B.
Local relationships between turbulence stress gradients and mean secondary flow (A) ....Ja 74

SWINNEY, G. W.
"Instant" meter proving (A) ....Mr 90

SYBERT, W. M.
A medium-size combined-cycle power station (A) ....My 151

SYKES, WILFRED
Obituary ....D 103

SYMONS, J. D.
Seal design parameters and their effect on seal operating temperature (A) Ag 62

(A) denotes Abstract; (AC) Author's Closure; (BR) Book Review; (C) Correspondence; (D) Discussion; (Ed) Editorial

SYSTEMS ENGINEERING
Application of aerospace procedures to civilian systems selection (A) ....F 77
Generalized variables and subscripture for systems analysis (A) ....F 72
System requirements analysis (A) ....F 77
Systems engineering ....O 41
Systems engineering — myth or magic (A) ....F 77
SZEBEHELY, VICTOR
Orbital dynamics of space vehicles (BR) Jl 81
SZERESZEWSKI, P.
Application of free-piston gasifiers in plants using combined gas and steam cycles (A) ....My 151
SZIRTES, T.
The circular adjuster (A) ....D 62

T

TAFT, C. K.
The new challenge: fluid amplifiers ....Ja 36
TAKAHASHI, Y.
An extension of the describing-function method (A) ....Mr 82
TANG, SAM
Effect of lateral hydrostatic pressure on the instability of elastic solids, particularly beams and plates (A) ....S 86
TANG, T.
Design and analysis of self-acting gas-lubricated slider bearings for noncontact magnetic recording (A) ....F 73
TANGEL, J. E.
Operating experience with control system's no. 1 unit — Hudson Generating Station (A) ....Ja 72
TANKS, STORAGE
Jet sets (A) ....F 57
Tanks-within-tanks (A) ....Jl 81
TANNER, FREDERICK C.
Reelected treasurer of Pratt Institute ..D 98
TANNER, R. I.
Complex variable analysis for stepped thrust bearings (A) ....D 64
TATE, GEORGE H.
Obituary ....Mr 121
TATLOW, RICHARD H., III
Named official nominee for the post of president-elect of the American Society of Civil Engineers ....S 116
TAYLOR, C. M.
Elastohydrostatic lubrication of circular plate thrust bearings (A) ....Ag 65
TAYLOR, EDWARD S.
Goals of engineering education (C) ..Ap 95
TELESCOPES
The sun also rises (A) ....F 57
TEMPERATURE CONTROL
Constant temperature with bellows and wick (A) ....Mr 71
TESAR, D.
The analytical design of an adjustable four-bar linkage for variable straight-line motions (A) ....D 63
Four multiple separated positions in coplanar motion (A) ....O 63
The selection of Watt's four-bar straight-line mechanisms (A) ....D 62
TESTA, R. B.
Longitudinal impact of a semi-infinite, cylindrical, viscoelastic shell (A) ....Ap 82
TESTING
Dynamic nondestructive monitoring to determine mechanisms of failure (A) Ag 63
An engineering model for wear (A) ....S 82
High-temperature testing of reentry bonds (A) ....Ag 60
The importance of being nondestructive (A) ....Je 49
Simulated high gas-flow testing (A) ..Mr 84
Snap reactor transient test machine (A) My 153
Tensile testing of cemented carbides (A) Ag 62
TEXTILE INDUSTRY
Mechanical development in tufting machinery (A) ....Je 76
Textile Engineering Conference, 1966 Je 102
TEXTILES
Effect of fiber surface roughness on cohesion of textile assemblies (A) ....Je 76
Multivariable studies of nonwoven fabrics (A) ....Je 76
THACKER, MILTON B.
Elected vice-president of ASME ....N 114
THACKREY, JAMES D.
Older and wiser protests (C) ....Je 83
Professionalism (C) ....D 71
Slogans for engineers (C) ....My 159
THAU, S. A.
Diffractions of horizontal shear waves by a parabolic cylinder and dynamic stress concentration (A) ....D 68
Stress intensification near a semi-infinite rigid-smooth strip due to diffraction of plastic waves (A) ....D 69
THEN, J. W.
Hydrodynamic gyroscope (A) ....D 67
THEOCARIS, P. S.
Inelastic buckling of rib-cored sandwich cylinders under external hydrostatic pressure (A) ....S 84
THERMAL MODELING. *See* HEAT TRANSFER
THERMAL STRESSES
Axial thermal gradient stresses in thin cylinders of finite length (A) ....Ap 85
Bounds on the maximum thermoelastic stress and deflection in a beam plate (A) ....D 67
Stress-intensity factors for thermal stresses in thick hollow cylinders (A) ....Ap 85
THERMIONIC CONVERTERS. *See* ENERGY CONVERSION
THERMODYNAMICS
Consequences of an inequality in nonequilibrium thermodynamics (A) ....S 84
Thermofluid mechanics (BR) ....Je 84
THERMOELASTICITY
Axisymmetric thermoelastic problem in bispherical coordinates (A) ....D 69
THERMOELECTRIC POWER. *See* POWER
THERMOMETERS
Solder thermometer (A) ....S 67
THIELSCH, HELMUT
Appointed manager, research and development division, Grinnell Company F 104
THIRUVENGADAM, A.
High-frequency fatigue of metals and their cavitation-damage resistance (A) Ap 80
THOMAS, FELIX
Obituary ....Je 111
THOMAS, FRANK A., JR.
Goals of engineering education (C) ..Ap 94
THOMAS, F. C.
Reliability and maintainability part 3 — aviation: DC-9 design features ....Ap 56
THOMAS, L. M.
Fluid pressure gradients caused by impact to the human skull (A) ....Ja 73
THOMAS, RALPH L.
Obituary ....F 107
THOMASON, H. E.
Three solar houses (A) ....Ap 90
THORNBURGH, J. D.
Predictions of the thermal conductivity of filled and reinforced plastics (A) Ja 77
THORPE, J. F.
Fully developed laminar flow in a stepped rectangular channel (A) ....S 84
TICHAUER, E. R.
Biomechanics of the arm-back aggregate under industrial working conditions (A) ....Ap 88
TIMKO, C. A.
An ion-drag thrust bearing (A) ....Mr 84
TIMM, R. F.
Analog simulation of rigid link mechanisms (A) ....O 66
TIMMS, HOWARD L.
Named director of Indiana University Aerospace Research Applications Center (ARAC) ....D 98
TINDALL, J. W.
Radiative interchange factors by Monte Carlo method (A) ....Mr 81
TING, T. C. T.
Contact stresses between a rigid indenter and a viscoelastic half-space (A) ....N 84
TIPEI, N.
On the field of temperature in lubricating films (A) ....D 64
TIPPING, W. E., JR.
Vibration reduction techniques for high-speed rotating equipment (A) ....Ja 71
TITANIUM
Biaxial strengthening of textured titanium (A) ....Je 72
Titanium and desalination (A) ....Ja 56
TITTLE, C. W.
Analytical solution of conduction problems in composite media (A) ....Ja 80
TOBEY, AUBREY, C.
Appointed director of marketing of David W. Mann Company, Division of GCA Corporation ....O 98
Named assistant director of marketing of technology division, GCA Corporation Je 108
TOBIAS, L. W.
Human factors in vehicle checkout (A) Je 74
TOENSING, C. H.
Tensile testing of cemented carbides (A) Ag 62
TOLHURST, G. C.
Human engineering and acoustical fatigue (A) ....S 82
TOMKOWIAC, SYLVESTER A.
Obituary ....F 107
TOMLINSON, J. G.
Elimination of turbine erosion in the T56 turboprop engine (A) ....Ja 70
TONG, L. S.
Burnout in steam-water flows with axially nonuniform heat flux (A) ....Ja 78
Transient DNB test on CVTR fuel assembly (A) ....Mr 88
TOPRAC, A. A.
An investigation of the stresses in welded tubular connections (A) ....Ap 88
TORRANCE, K. E.
Off-specular peaks in the directional distribution of reflected thermal radiation (A) ....Mr 80
TOULOUKIAN, YERAM S.
Elected Fellow of ASME ....N 117
TOWFIGH, KEIVAN
Application of number synthesis to practical problems in creative design (A) ....F 72
TRACKING
Manual tracking capabilities in a shipboard environment (A) ....Je 73
TRACKING PEDESTALS
Dynamics of a two-axis pedestal (A) ....F 72
TRAMPOSCH, H.
Relaxation of internal forces in a wound reel of magnetic tape (A) ....Ap 82
TRANSIT SYSTEMS
Arrival and departure (A) ....S 76
First International Conference about urban transportation (A) ....Ap 98
High-speed tunnel transport (A) ....F 93
Jet train (A) ....F 62
JNR electrification (A) ....Ap 76
"Magnetrain" project ....S 98
Safety for high-speed surface transportation ....S 41
Vehicle control in mass-transit systems (A) ....Jl 71
TRANSMISSION SYSTEMS. *See also* DRIVES, POWER
Selecting transmission systems for high-speed lightweight applications (A) ..Jl 66
Selecting transmission systems for "stop-and-go" applications (A) ....Jl 68
Selecting transmissions for precision positioning applications (A) ....Ag 60
TRINKS, C. L. WILLIBALD
Obituary ....Ag 91
TRIPP, C. E.
Diesel propulsion on Great Lakes ships (A) ....Je 66
TROUT, D. E.
Relative susceptibility of copper-nickel alloys to intergranular cracking in various media and at varying stress levels (A) ....Mr 85
TSEDERBERG, N. V. (author)
Thermal conductivity of gases and liquids (BR) ....Ja 83
TSO, W. K.
Parametric excitation of a nonlinear system (A) ....Ap 82
TSUJI, K.
Design, fabrication, and testing of acrylic pressure hulls for manned vehicles (A) ....Ap 78
TUBA, I. S.
Elastic-plastic solutions for notched shafts in torsion (A) ....Je 74
TUBE SHEETS
Carbon-steel, feedwater-heater, tube-to-tube sheet joints (A) ....Ja 72
TUBES AND TUBING. *See also* HEAT-EXCHANGE EQUIPMENT
An investigation of the stress in welded tubular connections (A) ....Ap 88
Rules of thumb (A) ....Ap 67
TUCKER, ALLEN E.
Named chief engineer for Denison Division, Abex Corporation ....O 98
TUNG, T. K.
Slip strains and stresses in polycrystalline aggregates under cyclic load (A) My 152
TUNGSTEN
Die for tungsten (A) ....Ag 47
TURBINES. *See also* GAS TURBINES; PUMP-TURBINES

TURBINES, EXPANSION
Aerodynamic and thermodynamic design of cryogenic radial-inflow expanders (A) ..... F 76
Expanders in chemical and physical processes (A) ..... My 150
Operating experience with cryogenic turboexpanders (A) ..... F 76
Turboexpanders — loading methods and control (A) ..... F 75
TURBINES, HYDRAULIC
Development of electric-hydraulic turbine governors in North America (A) ..... Ja 73
Power-recovery hydraulic turbines (A) N 82
Tube turbine units and their application (A) ..... Ja 73
Tube turbine units: their application ..My 118
TURBINES, STEAM
A facility for flow visualization in a large-scale turbine stage (A) ..... Ja 71
A progress report on study of steam turbine erosion by solid particles (A) Ja 71
TURBOCHARGERS. *See* SUPERCHARGERS
TURBOEXPANDERS. *See* TURBINES, EXPANSION
TURBOMACHINERY
Application of gas bearings to closed-system Brayton-cycle turbomachinery — recent accomplishments and potential problem areas (A) ..... My 147
Bearings, seals, and rotor dynamics of turboexpanders and similar high-speed machinery (A) ..... F 75
Closed-cycle turbomachinery (A) .....My 149
Computer analysis of flexural vibrations of a rotating disk with an arbitrary profile (A) ..... Ja 70
An empirical method for calculating radial pressure distribution on rotating disks (A) ..... Ja 75
Modern gas-bearings turbomachinery part 1: the state-of-the-art ..... Ja 24
part 2: research and application .....F 42
Radial-equilibrium equation of turbomachinery (A) ..... Ja 69
Turbomachinery design analysis of a 500-kw closed-Brayton-cycle power system (A) ..... My 149
Use of arbitrary quasi-orthogonals for calculating flow distribution in a turbomachine (A) ..... Ja 69
Vibration reduction techniques for high-speed rotating equipment (A) .....Ja 71
TURBOPUMPS
Hydrostatic seals for turbopumps (A) Jl 73
TURCK, FENTON B.
The 47 functions of marketing .....Jl 30
TURNBULL, D. E.
An anomaly (C) ..... Ag 67
TURNER, R. P.
Weld testing — offshore structure (A) ..... N 80
TURPIN, WAYNE D.
Obituary ..... F 107
TUTT, CHARLES L., JR.
Goals of engineering education (D) ..My 156
TYLER, J. R.
Seagoing turbine (C) ..... Ap 95

U

UICKER, J. J., JR.
Dynamic force analysis of spatial linkages (A) ..... D 63
ULTRASONICS
Ultrasonic grinding economics (A) ....Je 75
UNDERWATER RESEARCH AND TECHNOLOGY. *See also* SUBMARINES
Bottom (A) ..... S 77
Comparison of dynamic and static power conversion for undersea missions (A) ..... My 149
Deep-ocean reactor placement study (A) ..... Ap 79
Design, fabrication, and testing of acrylic pressure hulls for manned vehicles (A) ..... Ap 78
Design of a test system for deep-ocean research (A) ..... Ap 80
Detection technique ..... S 99
Gilled systems for hydrospace (A) ....Ap 81
Gilled systems for hydrospace ..... Ag 18
Heat-loss analysis for deep-diving oceanauts (A) ..... Ja 77
Heat transfer research in the deep ocean (A) ..... Ap 80
The implications of the "Man-in-the-Sea" program (A) ..... Jl 68
Large prestressed concrete vessels for deep-submergence testing (A) .....Ap 79
"Man's extension into the sea" symposium, 1966 ..... Mr 104
UNDERWATER RESEARCH AND TECHNOLOGY *(Continued)*
Marine council at Cabinet level: underwater technology to get top-level Government attention .....O 75; (C) D 70
Tables of hydrodynamic-mass factors for translational motion (A) ..... Ap 80
Underwater manipulators ..... Mr 35
Was the subject of the National Association of Manufacturers (A) .....Ja 92
UNESCO
UNESCO's Birthday ..... D 79
UNITED NATIONS
New "United Nations Development Programme" (A) ..... Ja 89
URAGAMI, THOMAS T.
Promoted to product manager of the heat transfer department, ITT Bell and Gossett ..... O 98
URANIUM
Designing with plutonium and uranium ..... Je 28
URICH, THOMAS
Promoted to sales manager of automotive products, Grip Nut Company ..... D 100
USA STANDARDS INSTITUTE
USA Standards Institute ..... N 95
USHER, GEORGE C.
Obituary ..... Jl 112

V

VACUUM TECHNOLOGY
The imperfect vacuum (A) ..... D 46
Torr out? (A) ..... Ag 51
VAILL, E. W.
Innovations in molding plastics ..... S 60
Innovations in molding thermosets (A) ..... F 79
VALUE ENGINEERING
Application of value engineering during initial design (A) ..... Ag 59
VALVES
Advanced valve technology for spacecraft (A) ..... Jl 70
Analysis and design of a streamlined heart valve prosthesis (A) ..... Je 73
Application of fluidic valves (A) ..... F 76
Design of heart valves ..... Jl 22
Effect of valve design on plunger-pump net positive suction head requirements (A) ..... N 80
Elastomeric seals for valves .....Ap 47: (D) Jl 78
An experimental investigation of safety relief valve flow and dynamic operation (A) ..... N 80
Fluid and pressure-operated concentric gas lift valves with automatic control means (A) ..... N 80
Fluorocarbon coatings for submarine ball valves (A) ..... Ag 58
Nonlinear steady-flow forces of hydraulic valves (A) ..... Mr 83
Stability of modified type 316 austenitic steels for valve applications at elevated temperatures (A) ..... Ap 88
VAN COTT, H. P.
Human engineering guide to equipment design: progress on a revision and expansion (A) ..... Je 74
VAN DE COP, KAREL
Obituary ..... Mr 121
VAN DYKE, J.
A portable digital computer for engine indicating and analysis (A) ..... Je 65
VAN WAGENEN, EDWARD
Obituary ..... N 119
VAPOR-PHASE DEPOSITION. *See* METAL COATING
VARGA, GIDEON M.
Obituary ..... Jl 112
VARONA, MIQUEL C.
Obituary ..... N 119
VATHAYANON, B.
Influence of the tooth surface deformation upon the capacity of hydrodynamically lubricated spur gears (A) .....Ag 64
VAUGHAN, P. S.
Development of a high-specific-output, four-stroke supercharged diesel engine (A) ..... Je 66
VAVRA, M. H.
A graphical solution of the matching problem in closed-cycle gas turbine plants (A) ..... My 149
VEATCH, NATHAN THOMAS
Received the Missouri Honor Award for distinguished service in engineering ..S 114
VEITH, W.
Management of engineering changes (A) ..... Jl 70
VELDKAMP, G. R.
Some remarks on higher curvature theory (A) ..... O 64
VELZY, CHARLES R.
Potentials in incineration (A) ..... F 76
VENTURI METERS. *See* FLOWMETERS
VER PLANCK, D. W.
Elected Fellow of ASME ..... My 176
VIBRATION. *See also* ISOLATORS; ROTORS
VIBRATION
Analysis of lateral vibrations of gears and rimmed wheels (A) ..... Ag 58
Asymptotic analysis of the axisymmetric vibrations of shells (A) ..... Je 74
Balancing of high-speed machinery (A) ..... O 63
Computer analysis of flexural vibrations of a rotating disk with an arbitrary profile (A) ..... Ja 70
Effect of structural damping on the forced vibrations of cylindrical sandwich shells (A) ..... Ap 81
Effects of longitudinal inertia upon the parametric response of elastic columns (A) ..... Ap 83
First-passage time in a random vibrational system (A) ..... My 153
Free vibrations of stiffened drill strings with static curvature (A)..... O 68
Harmonic rocking of a rigid rectangular body on a semi-infinite elastic medium (A) ..... S 86
Normal and quasi-normal modes in damped linear dynamic systems (A) ..... My 152
Normal model vibrations for some damped *n*-degree-of-freedom nonlinear systems (A) ..... S 85
Parametric excitation of a nonlinear system (A) ..... Ap 82
Putting vibration to work ..... S 48
Reciprocal theorem for harmonic oscillations of an elastic isotropic medium (A) ..... F 73
A simple source of intense vibrations (A) ..... Mr 89
Some experiments on the vibration of a hemispherical shell (A) ..... D 68
Some first-passage problems in random vibration (A) ..... S 86
Steady-state response of the double bilinear hysteretic model (A) ..... Ap 82
A study of the response of a small porous chamber to forced oscillation (A) ....Ja 75
Subharmonic vibration of rotors in bearing clearance (A) ..... Ag 56
Theory of vibratory bending for elastic and viscoelastic layered finite-length beams (A) ..... Ap 82
Vibration as an asset in design engineering (A) ..... Ag 59
Vibration reduction techniques for high-speed rotating equipment (A) .....Ja 71
VIDOSIC, J. P.
The selection of Watt's four-bar straight-line mechanisms (A) ..... D 62
VISCOELASTICITY
Measurement of Poisson's ratio for viscoelastic materials in uniaxial compression (A) ..... F 77
VISSER, RICHARD K.
Obituary ..... F 107
VOLUNTEERS FOR INTERNATIONAL TECHNICAL ASSISTANCE
VITA calls for engineers volunteers (A) ..... Ap 100
VON DER NUELL, W. T.
Whither go the small gas turbines? (A) Je 71
VONDERSMITH, EARL L.
Obituary ..... Je 111
VOORHEES, H. R.
Experimental determination of onset of yielding in pressure vessels (A) ....Ap 88
VORHAUER, B. W.
Analysis and design of a streamlined heart valve prosthesis (A) ..... Je 73
VORTEXES. *See* FLOW OF FLUIDS

W

WAHL, ARTHUR M.
Awarded Marstron Medal for outstanding achievement in engineering at Iowa State University ..... S 114
WAITKUS, JOSEPH
Elected Fellow of ASME ..... Ag 88

(A) denotes Abstract; (AC) Author's Closure; (BR) Book Review; (C) Correspondence; (D) Discussion; (Ed) Editorial

WALCHER, EDWIN, JR.
Elected to board of directors of AMSTED Industries ..... Je 107
WALDHEGER, ROY A.
Appointed senior sales engineer for Dynamics Filters Division of Michigan-Dynamics, Inc. ..... Je 107
WALDRON, K. J.
Application of the theory of screw axes to linkages which disobey the Kutzbach-Grubler constraint criterion (A) D 63
WALKER, GILBERT S.
Obituary ..... N 119
WALOWIT, J. A.
Determination of stresses in rolling-contact elements (A) ..... D 65
A theory of lubrication by microirregularities (A) ..... Mr 85
WALSH, JOHN J.
Appointed manager of the mechanical and nuclear department at Sargent and Lundy ..... Je 108
WALSH, WILLIAM J.
Obituary ..... O 103
WANG, P. K. C.
On the almost sure stability of linear stochastic distributed-parameter dynamical systems (A) ..... Ap 82
WARD, C. E.
Erosion of various materials by liquid-entrained abrasives (A) ..... Ap 88
WARD, F. L.
Application of solid-state urethanes from liquid materials (A) ..... F 78
WARD, TERRY
A new look at manufacturing start-up, planning, and control (A) ..... My 153
WARDALE, D. J. S.
Development of a glass-ceramic axial-flow rotary regenerator (A) ..... Je 70
WARNER, RUSSELL G., JR.
Obituary ..... O 103
WARNER, R. S.
New ignition concepts and their application to gas engines (A) ..... Je 67
Solid-state ignition ..... O 30
WARREN, G. B.
Fuel-economy gains from heated lean air-fuel mixtures in motorcar operation (A) ..... Ap 84
Some factors influencing motorcar fuel consumption in service (A) ..... Ap 84
Thermal power from seawater (D) ..... Jl 79
WARREN, W. E.
Axisymmetric thermoelastic problem in bispherical coordinates (A) ..... D 69
WASTE DISPOSAL
National Incinerator Conference, 1966 Je 97
Solid waste training program ..... O 80
WATER
Factors affecting solar-still performance (A) ..... Ap 90
Hydrological study (A) ..... S 79
Role of solar furnaces in the processing of extraterrestrial resources (A) ..... Ap 90
Use and reuse of our waters (A) ..... N 68
Water management to eliminate water waste (A) ..... N 82
WATER DESALINATION
Desalination around the world (A) ..... Ap 100
Desalinization plant (A) ..... F 66
Freshwater distillation plant (A) ..... S 79
Nuclear energy: potential for desalting Ap 52
Salt around us (A) ..... Je 60
Solar stills (A) ..... Ap 76
Titanium and desalination (A) ..... Je 56
Two means of flash distillation: direct contact and multieffect ..... F 64
WATHEN, W. L.
In-line pump applications (A) ..... N 79
Power-recovery hydraulic turbines (A) N 82
WATSON, R.
Bursting characteristics of thin metal diaphragms in shock tubes (A) ..... Ap 86
WATTERS, B. G.
A simple source of intense vibrations (A) Mr 89
WATTS, E. H.
The analytical design of an adjustable four-bar linkage for variable straight-line motions (A) ..... D 63
WAVE MECHANICS
An analysis of longitudinal elastic-plastic pulse propagation (A) ..... Je 74
An approximate procedure for the solution of a class of transient wave diffraction problems (A) ..... Ap 82
Diffractions and horizontal shear waves by a parabolic cylinder and dynamic stress concentration (A) ..... D 68
WAVE MECHANICS *(Continued)*
An experimental investigation of elastic-plastic pulse propagation in aluminum rods (A) ..... D 66
Plane waves in an elastic half-space due to combined surface pressure and shear (A) ..... My 152
Shock waves produced by small stress increments in annealed aluminum (A) N 84
Stress intensification near a semi-infinite rigid-smooth strip due to diffraction of plastic waves (A) ..... D 69
A unified approach to cylindrical and spherical elastic waves by method of characteristics (A) ..... My 152
Waves in bars of mechanically unstable materials (A) ..... My 152
WAY, STEWART
Elected Fellow of ASME ..... Je 109
WAYMEYER, W. K.
A nonlinear filter for independent gain and phase (with applications) (A) Mr 82
WAYSON, A. R.
Applying the wear model to design problems (A) ..... S 82
An engineering model for wear (A) ..... S 82
Special considerations relating to the engineering model for wear (A) ..... S 83
WEAR
Applying the wear model to design problems (A) ..... S 82
A clean friction and wear measurement device (A) ..... D 62
An engineering model for wear (A) ..... S 82
Special considerations relating to the engineering model for wear (A) ..... Ap 83
WEATHERSTON, R. C.
Energy exchanger, a new concept for high-efficiency gas turbine cycles (A) ..... Je 70
WEBB, J. H.
Melt fracture — a correlation with rheological parameters (A) ..... F 77
WEBB, RALPH L.
Promoted to senior research engineer, Trane Company ..... F 105
WEBER, H. B.
Single-axle trucks and articulated connections for multiple-unit, high capacity railway cars (A) ..... Jl 72
WEBER, HOMER S.
Elected Fellow of ASME ..... N 117
WEBSTER, J. C.
Requirements for compact shipboard interior communications (IC) equipment (A) ..... Je 74
WECHSLER, A. E.
Role of solar furnaces in the processing of extraterrestrial resources (A) ..... Ap 90
WEESE, J. A.
Axisymmetric thermoelastic problem in bispherical coordinates (A) ..... D 69
WEHR, FREDERIC C.
Obituary ..... F 107
WEIDHUNER, D. D.
Military potential of the small gas turbine (A) ..... Je 69
WEIGHING SYSTEMS
Calibration of continuous conveyor scales (A) ..... Jl 65
Fish story (A) ..... S 74
Fluidics in weighing systems control (A) Jl 67
WEIGHTS AND MEASURES
English/metric micrometer (A) ..... S 79
Inch-metric dimensioning ..... Je 50
Same old problem: metric system (C) Mr 92
Thermal effects in dimensional metrology F 26
WEIL, N. A.
Axial thermal gradient stresses in thin cylinders of finite length (A) ..... Ap 85
WEINER, M. M.
Radiative interchange factors by Monte Carlo method (A) ..... Mr 81
WEINSTEIN, ALVIN S.
Appointed professor of mechanical engineering at Carnegie Institute of Technology ..... Je 108
WEISS, H. D.
Role of material properties and interface temperatures in friction welding dissimilar metals (A) ..... Ag 65
WEISS, V.
Effect of section size on notch strength (A) ..... Je 72
WEITSMAN, Y.
Strain-gradient effects around cylindrical inclusions and cavities in a field of cylindrically symmetric tension (A) ..... Je 74
WELCH, H. C.
Experience with solid-state ignition (A) Je 64
Solid-state ignition ..... O 30
WELDED JOINTS
An investigation of the stresses in welded tubular connections (A) ..... Ap 88
Weld testing — offshore structures (A) N 80
WELDING
The path of least inductance (A) ..... My 129
Role of material properties and interface temperatures in friction welding dissimilar metals (A) ..... Ag 65
Two welds for aluminum (A) ..... My 132
Weld intelligence (A) ..... Jl 56
WELLAUER, E. J.
Goals of engineering education (D) My 156
WELSH, RICHARD E.
Obituary ..... Ap 121
WERNER, G. C.
Flexible couplings ..... D 18
WESNER, J. W., JR.
Study of cable-wrapped pressure vessel for nuclear reactors (A) ..... Mr 88
WESTBROOK, M. H.
Telemetering of information from a working internal-combustion engine (A) Je 65
WESTERHOFF, RUSSELL P.
Elected to the office of chairman and chief executive officer, Ford, Bacon & Davis, Inc. ..... D 100
WESTWATER, JAMES W.
Received the William H. Walker Award from AIChE ..... D 99
WETHERAL, THOMAS G.
Flueric controls, a description of available components and current applications (A) ..... Mr 83
WEYHER, D. F.
Curing adhesives in production runs (A) Ag 60
WHEELS
Patent for a wheel (A) ..... S 71
WHIDDON, OSLIN D.
Named general superintendent of production, Detroit Edison Co. ..... O 100
WHITE, D. F.
A digital flowmeter without moving parts (A) ..... Mr 90
WHITE, FRANK O.
Obituary ..... N 119
WHITE, MERTON G.
Obituary ..... N 119
WHITEHOUSE, N. D.
Derivation of a formula for the thermal loading of certain internal-combustion engines (A) ..... Mr 79
WHITTIER, J. S.
Axially symmetric motions of a two-layered Timoshenko-type cylindrical shell (A) ..... D 68
WHITWELL, J. C.
Multivariable studies of nonwoven fabrics (A) ..... Je 76
WICKSTRAND, NORMAN M.
Rare storage (A) ..... O 71
WIDNER, R. L.
Propagation of contact fatigue from surface and subsurface origins (A) ..... Mr 79
WIEDERHIELMAN, C. A.
Structural analysis of an arteriole by the direct stiffness method (A) ..... Je 73
WIEDMAYER, L. W.
Electrocoating process: corrosion protection of highly profiled designs (A) ..... Ag 62
WIKHAMMER, G. A.
Critical heat flux in long tubes at 1000 psi with and without swirl promoters (A) Je 78
WILCOCK, D. F.
Externally pressurized bearings as servomechanisms. 1 — The simple thrust bearing (A) ..... O 66
WILDER, ROBERT O.
Goals of engineering education (D) ..... My 156
WILDIN, M. W.
Radiative heat transfer through an absorbing boundary layer (A) ..... Mr 81
WILHOIT, J. C., JR.
Pipe stresses induced in laying offshore pipeline (A) ..... O 67
WILHOIT, LOEWELL M.
Elected Fellow of ASME ..... N 117
WILKES, G., III
Results of a sophisticated approach to compressor operation in high-pressure diversified service (A) ..... Je 66
WILKINSON, J. P.
Deformation of open spherical shells under arbitrarily located concentrated loads (A) ..... Ap 83
WILKINSON, T. S.
Split compressor differential gas turbine engine for vehicle propulsion (A) ..... Je 70
WILLHITE, G. P.
Casing failure problem in steam injection wells, Cat Canyon oil field, Santa Barbara County, Calif. (A) ..... N 82

WILLIAMS, D. H.
A progress report on study of steam turbine erosion by solid particles (A) Ja 71
WILLMERT, K. D.
Optimum design of curve-generating linkages with inequality constraints (A) O 63
WILSON, D. G.
Aerodynamic and thermodynamic design of cryogenic radial-inflow expanders (A) F 76
Specification of high-mass-flow intercooled air compressors for process applications (A) F 80
WILSON, HARRY P.
Obituary F 107
WILSON, JAMES F.
Received award of $3000 from the Freeman Award Committee at Ohio State University O 98
WILSON, J. N.
A designer's look at Mariner IV's configuration and mechanical design (A) JI 71
WILSON, L. V.
Development of an elevated-temperature centrifugal pump for a molten-salt nuclear reactor (A) Ja 74
WILSON, RALPH D.
Promoted to assistant chief mechanical engineer of Harry O. Hafter-Associates, Inc. Ap 116
WILSON, W. B.
Evaluating systems to increase gas turbine capability (A) My 150
WINCHESTER, S. C.
Multivariable studies of nonwoven fabrics (A) Je 76
WIND TUNNELS
Four seconds at Mach 14 (A) Je 51
Wind tunnels: from hypersonic to hypervelocity S 67
WINWARD, A.
Development and testing of wear-reducing marine diesel cylinder lubricants (A) Je 64
WIRTA, R. W.
EMG control of external power (A) Ap 89
WISSMAN, HERBERT E.
The engineer at work N 34
Maintaining challenge in the engineer's work environment (A) Ag 58
WITT, JAMES H.
Manual tracking capabilities in a shipboard environment (A) Je 73
WOLF, J. E.
Hydrostatic seals for turbopumps (A) JI 73
WOLF, S. M.
Properties and applications of dispersion-strengthened metals (A) JI 68
WOLFE, E. JACK
For industry: gas turbine vs reciprocating N 58
Gas turbine engines versus reciprocating engines for industrial applications (A) Je 67
WOLFGRAM, C. A.
Planning for and budgeting the annual workload (A) JI 67
WOLLES, RICHARD J.
Obituary Je 111
WONG, WEN HAO
Obituary Mr 121
WOO, L. S.
Type synthesis of plane linkages (A) O 64
WOOD, G. M.
Cavitation damage studies with rotating disk in water (A) JI 75
Development of a high-temperature molten lithium pump (A) Ja 75
WOOD, J. D.
Structural changes in cemented carbides due to plastic deformation at elevated temperatures (A) Ag 62
WOOD, W. P.
Economics of a zero or minimum defects program (A) Ag 60
Zero defects: it pays N 45
WOODRUFF, L. W.
Heat transfer measurements from a partially dissociated gas with high Lewis number (A) Ja 78
WOODS, W. A.
Tests to examine high-pressure pulse charging on a two-cycle diesel engine (A) Je 67
WOOLLATT, D.
Application of unsteady gas-dynamic theories to the exhaust system of turbocharged two-stroke engines (A) Mr 79
WRIGHT, C. D., JR.
Use of diaphragms in pneumatic systems (A) F 74
WRIGHT, E. F.
Received Hydraulic Institute's award Ap 116
WU, S. M.
Maximum profit as the criterion in the determination of the optimum cutting conditions (A) Je 75
WYLIE, WILLIAM G.
Obituary F 107

Y

YAMANAMI, S.
A study of fluid squeeze-film damping (A) Mr 84
YANCEY, I. R.
Initial development of a billion-barrel oil reserve (A) N 81
YANG, AN TZU
Acceleration analysis of spatial four-link mechanisms (A) Mr 90
Application of dual quaternions to the study of gyrodynamics (A) O 64
YANG, KWANG-TZU
Laminar film condensation in two-phase channel flow (A) Ja 81
YANG, P. M.
Nonlinear steady-flow forces of hydraulic valves (A) Mr 83
YANG, TAH-TEH
Theory of a thin-ring airfoil in a incompressible inviscid source flow field (A) JI 74
YANG, WEN-JEI
Transport phenomena from cylinders in reciprocating harmonic rotation, including uniform suction or blowing (A) Ja 78
YELLOTT, J. I.
Solar energy progress report (A) Ap 89
YONTAR, M.
Research on the operating stresses in PATH railcar axles, drive systems, wheels and rail joints (A) JI 72
YOUNG, E. H.
Experimental determination of onset of yielding in pressure vessels (A) Ap 88
YOUNG, SHELTON E.
Named president of Vibro/Dynamics Corporation F 104
YOUNG, WENDELL S.
Appointed a project manager of Digital Systems Division of Foxboro Company D 100
YOUNGCLAUS, WILLIAM F.
Appointed managing director of Nersica, Inc. Ap 119
YUKAWA, S.
Fatigue crack propagation in low-alloy, heat-treated steels (A) Je 72
Fracture toughness determinations of A-302B and Ni-Mo-V steels with various size specimens (A) Je 72

Z

ZALVADIA, J. V.
Effects of particle injection on natural gas flame radiation (A) Mr 86
ZEIDLER, H. R.
Selection of bearings for translating round shafts (A) S 82
ZERO DEFECTS. *See also* DESIGN DATA AND METHODS
Zero defects: it pays N 45
ZIEBARTH, H. K.
Could today's gas turbine technology benefit from new cycle concepts? (A) JI 75
ZIEGLER, MALCOLM
Obituary F 107
ZIMMERMAN, C. L.
Importance of the "big picture" (A) F 77
ZINMEISTER, GEORGE E.
Measurement of sap flow in leaf petioles by a thermal method (A) Ja 76
ZISFEIN, MELVIN B.
Application of fluid-state devices to process-control computation (A) F 76
ZIZICAS, GEORGE A.
Obituary O 103
ZOROWISKI, C. F.
Effects of nonsymmetry in strip rolling on single-roll drive mills (A) Ap 87
ZOSCHAK, R. J.
Supercharged steam generator: some aspects of design and pressure level selection (A) My 150
ZUCROW, MAURICE J.
Presented James H. Wyld Propulsion Award of the American Institute of Aeronautics and Astronautics S 114
Retires as director of Purdue University's Jet Propulsion Center F 105
ZUDANS, ZENONS
Promoted to the position of technical director of Mechanical and Nuclear Engineering Division at The Franklin Institute S 116

Index to
TRANSACTIONS OF THE ASME

Volume 88, 1966

There are five journals issued quarterly: **Journal of Engineering for Power** in January, April, July, and October; **Journals of Engineering for Industry** and of **Heat Transfer** in February, May, August, and November; **Journals of Basic Engineering** and **Applied Mechanics** (Volume 32) in March, June, September, and December.

P	Power
I	Industry
HT	Heat Transfer
B	Basic
AM	Applied Mechanics
(D)	Discussion of paper
(AC)	Author's Closure
(BR)	Book Review

A

ABLATION. *See also* MASS TRANSFER
- Calculations of approximate thermophysical properties for ablating specimens exposed to high radiant heat fluxes ..HT 328
- Comparison between exact and one-dimensional theories for incipient melting in reentry simulation .....HT 428
- Dynamic response of a viscoelastic cylinder with ablating inner surface ....AM 275
- Temperature distribution in an ablating solid .....HT 335

ABRAHAMSON, G. R.
- Dynamic flexural buckling of rods within an axial plastic compression wave ....AM 241

ABRAMSON, M. N.
- Some studies of nonlinear lateral sloshing in rigid containers .....AM 777

ABRASIVE MACHINING. *See* GRINDING AND GRINDING WHEELS

ACHENBACH, J. D.
- Dynamic response of a viscoelastic cylinder with ablating inner surface ....AM 275

ACOSTA, A. J.
- Experimental observations on the flow past a plano-convex hydrofoil .....B 273
- Wall effect in cavity flow (D) .....B 136

AERODYNAMICS. *See also* FLOW OF FLUIDS
- The C_p for accelerated slender bodies AM 1

AGUET, E.
- Trends in combined steam-gas turbine power plants in the U. S. A. (D) .....P 309

AHLGREN, H. J.
- A plasticity problem involving plane strain and plane stress simultaneously: groove formation in the machining of high-temperature alloys .....I 142

AIR. *See* GASES

AKFIRAT, J. CAHIT
- Heat transfer characteristics of impinging two-dimensional air jets .....HT 101

AL, D. K.
- Wall effect in cavity flow .....B 132

ALKALI METALS. *See* LIQUID METALS

ALLEN, C. M.
- A theory of lubrication by microirregularities .....B 177

ALLOYS. *See* ALUMINUM; METALS; STEEL

ALUMINUM
- Cumulative damage and effect of mean strain in low-cycle fatigue of a 2024-T351 aluminum alloy .....B 801
- Shock waves produced by small stress increments in annealed aluminum ....AM 907

ALVIS, N. G.
- Electric hydraulic governor control for industrial and commercial gas turbine use .....P 243

AMES, W. F.
- Multiparameter perturbation solution of algebraic equations .....AM 218

AMUNDRUD, G. L.
- Gas turbine engines in the Royal Canadian Navy Prototype hydrofoil vessel P 139

ANDERSON, C. A.
- On the validity of the plastic theory of structures for collapse under highly localized loading .....AM 629

ANDERSON, D. B.
- Chlorination of sea water — effects on fouling and corrosion .....P 203

ANDERSON, J. E.
- Analysis of a magnetohydrodynamic ejector (D) .....AM 473

ANDREWS, F. C.
- Statistical theory of liquids (BR) .....AM 478

ANGRIST, S. W.
- Theory of nonequilibrium thermodynamics with application to the transport processes in a solid (D) .....HT 62

ANNULI
- Note on developing laminar flow in annuli B 811

AOKI, MASANAO
- Optimal control of some class of imperfectly known control systems .....B 306

APPROXIMATION THEORY
- Similitude and approximation theory (BR) .....AM 238

ARCHER, R. R.
- Newton's method applied to problems in nonlinear mechanics (D) .....AM 234

ARCS
- Effect of linear taper on the lowest natural extensional frequency of elastic arcs AM 211

ARNAS, G. A.
- Transport processes in magnetosolidmechanics .....AM 770

ATKINS, A. G.
- Flow characteristics through conical converging dies (D) .....I 410

AUSMAN, J. S.
- Condensing vapor lubrication of self-acting long journal bearings .....B 236

AUTOMATIC CONTROL. *See also* GOVERNORS
- The design of nonlinear multivariable control systems from state dependent linear models .....B 355
- Drift compensation of linear systems by parameter adjustments .....B 415
- An extension of the describing-function method .....B 469
- Functional representation of nonlinear systems, interpolation and Lagrange expansion for functionals .....B 429
- Identification of systems described by partial differential equations .....B 463
- An integral method of Liapunov function generation for nonlinear autonomous systems (D) .....AM 712
- Minimization of solar radiation pressure effects for gravity-gradient stabilized satellites .....B 444
- Multilevel approach applied to control system design .....B 392
- A nonlinear filter for independent gain and phase (with applications) .....B 457
- On a class of constrained control, linear regulator problems .....B 385
- On the almost sure stability of linear dynamic systems with stochastic coefficients (D) .....AM 234
- On the global stability of a class of nonlinear time-varying systems .....B 399
- Optical control of some class of imperfectly known control systems .....B 306
- Optimal feedback solutions for a class of distributed systems .....B 337
- Optimal singular solutions for linear multi-input systems .....B 323
- A paper and pencil control system design .....B 329
- Phase trajectory construction of high-order, nonlinear, time-varying, nonautonomous systems .....B 311
- Sequential estimation of states and parameters in noisy nonlinear dynamical systems .....B 362
- A simplified steepest-ascent method ....AM 452
- Stability-boundary approximations for relay-control systems via a steepest-ascent construction of Lyapunov functions ..B 419

AUTOMATIC CONTROL *(Continued)*
- Stability charts for second-order dynamical systems with time lag .....AM 119
- Stability conditions for a class of distributed-parameter systems .....B 475
- Stability criteria for second-order dynamical systems with time lag .....AM 113
- Steam generator water-level control .....B 343
- A technique of quasi-optimum control ..B 437
- Uncertainty and imprecision .....B 369
- The use of Lur'e forms to establish a sufficient condition for stability of a class of discrete feedback systems with parallel nonlinear elements .....B 379

AUTOMOTIVE ENGINEERING
- Automotive lubricants .....B 613
- On the lateral stability and control of the automobile as influenced by the dynamics of the steering system .....I 283

AVITZUR, B.
- Experimental study of hydrostatic extrusion .....B 658
- Flow characteristics through conical converging dies .....I 410

AWOJOBI, A. O.
- Harmonic rocking of a rigid rectangular body on a semi-infinite elastic medium AM 547

B

BABINA, F.
- A modified Gibbs experiment .....I 278

BACK, L. H.
- Prediction of heat transfer from laminar boundary layers, with emphasis on large free-stream velocity gradients and highly cooled walls .....HT 249

BAILE, G. H.
- Electron microscopy of stress-induced structural alterations near inclusions in bearing steels (D) .....B 571

BAKER, B. R.
- Some fundamental thermoelastic problems in orthotropic slabs .....AM 45

BAKER, E. J., JR.
- Calculation of approximate thermophysical properties for ablating specimens exposed to high radiant heat fluxes ..HT 328

BAKER, T. S.
- A modified Ritz method .....AM 224

BAKER, W. E.
- Elastic response of thin spherical shells to axisymmetric blast loading .....AM 800
- Strain-rate effects in the propagation of torsional plastic waves .....AM 917

BALDWIN, L. V.
- Decay of turbulence in axisymmetric wakes .....B 261

BAMMERT, K.
- Contribution on the calculation of gas turbine air heaters fired with gas-coal mixtures .....P 287

BAND SAWS
- Theoretical and experimental band saw vibrations .....I 151

BANKOFF, S. G.
- Nucleate boiling instability of alkali metals (D) .....HT 193

BARAKAT, H. Z.
- On the solution of the diffusion equations by numerical methods .....HT 421

BARBA, P. M.
- Attitude stability of a spinning satellite in an elliptic orbit .....AM 402

BARNOSKI, R. L.
- Passive-element analog circuits for three-dimensional elasticity .....I 8

BARR, A. D. S.
- An extension of the Hu-Washizu variational principle in linear elasticity for dynamic problems .....AM 465

BARRETT, RICHARD E.
Formation of SO_3 in a noncatalytic combustor ..... P 165; (AC) P 285

BARS
One-dimensional theories of wave propagation and vibrations in elastic bars of rectangular cross section ..... AM 489
Torsional instability of cantilevered bars subjected to nonconservative loading ..... AM 102
Upper and lower bounds of frequencies for cantilever bars of variable cross sections ..... AM 948
Waves in bars of mechanically unstable materials ..... AM 267

BATENBURG, ABRAM
Steam generator water-level control ..... B 3

BAUER, H. F.
Steady-state harmonic and combination response of a nonlinear dynamic vibration absorber ..... AM 213

BEAMS
Bounds on the maximum thermoelastic stress and deflection in a beam and plate ..... AM 881
Effect of lateral hydrostatic pressure on the instability of elastic solids, particularly beams and plates ..... AM 617
Large-amplitude free vibrations of a beam (D) ..... AM 711
On the validity of the plastic theory of structures for collapse under highly localized loading ..... AM 629
Plastic analysis and design, vol. 1: beams and frames (BR) ..... AM 479
Plastic bending of beams considering die friction effects ..... I 237
Propagation of discontinuous waves in nonuniform Timoshenko beams ..... AM 706
Rational approximations for the lower frequencies of a uniform beam with concentrated mass or rotary inertia AM 445
Rigid-plastic beams under uniformly distributed impulses (D) ..... AM 474
Shear coefficient in Timoshenko's beam theory ..... AM 335
Traveling force on a Timoshenko beam (D) ..... AM 233

BEARINGS. *See also* FRICTION; LUBRICANTS AND LUBRICATION; WEAR
Application of gas bearings to closed-system Brayton-cycle turbomachinery — recent accomplishments and potential problem areas ..... P 367
Correlation of the pitting fatigue life of bearings with rolling contact rig data ..... B 583
Design of film bearings (BR) ..... AM 95
Electron microscopy of stress-induced structural alterations near inclusions in bearing steels ..... B 568
An experimental study of the stability of an externally pressurized, gas-lubricated thrust bearing ..... AM 25
Externally pressurized foil gas bearings (D) ..... B 284
Fluid-film bearings ..... B 603
Hydrodynamic lubrication of partial porous metal bearings ..... B 53
An ion-drag thrust bearing ..... B 143
Lubrication of a porous bearing — Reynolds' solution ..... AM 761
Lubrication of a porous bearing — Stokes' solution ..... AM 753
Mechanism of rolling in force contact of elastic bodies ..... B 269
Microslip between a ball and its track in ball thrust bearings ..... B 213
Microstructural alterations of rolling — bearing steel undergoing cyclic stressing ..... B 555
Preliminary experiments with foil bearings ..... B 1
Propagation of contact fatigue from surface and subsurface origins ..... B 624
Radial flow without swirl between parallel disks having both supersonic and subsonic regions ..... B 147
Rolling element bearings ..... B 599
Stress field created by a circular sliding contact ..... AM 371
Theory and experiments of squeeze-film gas bearings — Part 1: Cylindrical journal bearing ..... B 191

BECK, J. V.
Input power determined from temperatures in simulated skin protected against thermal radiation (D) ..... HT 159

BEITINJANI, K. I.
Waves in free surface flow due to an irregular boundary ..... AM 693

BEN-AMOZ, M.
Note on some variational principles in elasticity ..... AM 447

BENDING
Bounds on the maximum thermoelastic stress and deflection in a beam and plate ..... AM 881
An experimental method for the transverse curvature of a triangular section plate under pure bending ..... AM 678
First-harmonic self-equilibrating bending of complete elastic circular cylindrical shells ..... AM 226
Large deflection in elastoplastic bending of a simply supported circular plate under a uniform load ..... AM 866
Nonlinear bending of a stress corrosion specimen ..... I 31
Plastic bending of beams considering die friction effects ..... I 237
Two-secondary effects in bending of slit two-walled tubes ..... AM 75

BENEDICT, R. P.
Flow losses in abrupt enlargements and contractions ..... P 73; (AC) P 284
Most probable discharge coefficients for ASME flow nozzles ..... B 734
On the determination and combination of loss coefficients for compressible fluid flows ..... P 67; (AC) P 283

BENNETT, F. W.
Impact strength of austenitic stainless-steel welds at –320 F — effects of composition, ferrite content, and heat-treatment ..... B 33

BENNETT, P. E.
Parameter representation of low-temperature yield behavior of body-centered cubic transition metals ..... B 518

BERGLES, A. E.
Empirical correlation of factors influencing departure from nucleate boiling in steam-water mixtures flowing in vertical round tubes (D) ..... HT 373
Heat transfer from an oscillating horizontal wire to water and ethylene glycol (D) ..... HT 363

BERMAN, I.
Design and analysis of commercial pressure vessels to 500,000 psi ..... B 500

BERT, C. W.
Creep rupture of rotating disks and thin shells of revolution (D) ..... AM 477

BHATT, S. J.
Stability charts for second-order dynamical systems with time lag ..... AM 119

BHATT, S. J.
Stability criteria for second-order dynamical systems with time lag ..... AM 113

BINS
The use of flow-corrective inserts in bins ..... I 224; (D) I 340

BIOTECHNOLOGY
Input power determined from temperatures in simulated skin protected against thermal radiation ..... HT 154
Structural analysis of an arteriole by the direct stiffness method ..... I 363
Thermal modeling applied to animal systems ..... HT 125

BIRKEBAK, RICHARD C.
Thermal modeling applied to animal systems ..... HT 125

BJERKLIE, J. W.
Comparison of dynamic and static power conversion systems for undersea missions ..... AM 323

BLAKE, T. R.
Supersonic cascade tunnel used to evaluate compressor blade performance ..... P 153

BLEICH, H. H.
Plane waves in an elastic-plastic half-space due to combined surface pressure and shear ..... AM 149

BLODGETT, R. E.
Stability conditions for a class of distributed-parameter systems ..... B 475

BLOOM, J. M.
Effect of a riveted stringer on the stress in a cracked sheet ..... AM 561
Effect of a riveted stringer on the stress in a sheet with a circular cutout ..... AM 198
Single-edge crack in rectangular sheet subjected to end rotations ..... AM 689

BLOOM, M. C.
A fresh look at the mechanism of corrosion in boilers (D) ..... P 381

BOBCO, H. P.
Radiative exchange among non-Lambert surfaces (D) ..... HT 43

BODNER, S. R.
An analysis of longitudinal elastic-plastic pulse propagation ..... AM 248

BODZIN, J. J.
Carbon and carbon-moly steam pipe after long-time service ..... B 14

BOILER CORROSION
A fresh look at the mechanism of corrosion in boilers ..... P 378
Research study on internal corrosion of high-pressure boilers ..... P 232

BOILERS
Steam generators for combined steam and gas turbine plants ..... P 402
Steam generator water-level control ..... B 343

BOILING. *See also* HEAT TRANSFER
Boiling heat transfer and two-phase flow (BR) ..... AM 478
Effects of surface conditions on nucleate pool boiling of sodium ..... HT 196
Empirical correlation of factors influencing departure from nucleate boiling in steam-water mixtures flowing in vertical round tubes ..... HT 367
Nucleate boiling instability of alkali metals ..... HT 183
On correlating the peak and minimum boiling heat fluxes with pressure and heater configuration ..... HT 94
Relation between bubble diameter and frequency of removal from a sphere during film boiling ..... HT 88
Some effects of geometry, orientation, and acceleration on pool film boiling of organic fluids ..... I 17

BOLEY, BRUNO A.
Bounds on the maximum thermoelastic stress and deflection in a beam and plate ..... AM 881

BOND, C. E.
Experimental investigation of a magnetically balanced arc in a transverse Argon flow (D) ..... P 277

BONILLA, C. F.
Effects of surface conditions on nucleate pool boiling of sodium (D) ..... HT 204
Heat transfer during film condensation of a liquid metal vapor (D) ..... HT 28

BONNELL, R. D.
Kinematic synthesis of adjustable four-bar linkages ..... AM 221

BOOK REVIEWS
Air Tables ..... AM 238
Boiling heat transfer and two-phase flow ..... AM 478
Design of film bearings ..... AM 957
The dynamics of real gases ..... AM 237
Dynamics of vibrations ..... AM 956
Engineering magnetohydrodynamics ..... AM 478
Experimental stress analysis ..... AM 237
Foundation of solid mechanics ..... AM 238
Friction and wear of materials ..... AM 479
Introduction to photomechanics ..... AM 956
Introduction to the mechanics of a continuous medium ..... AM 238
Introduction to the theory of similarity ..... AM 239
The measurement of mechanical parameters in machines ..... AM 957
The non-linear field theories of mechanics ..... AM 958
Numerical and matrix methods in structural analysis (BR) ..... AM 958
Plasma physics ..... AM 478
Plastic analysis and design. vol. 1, beams and frames ..... AM 479
Principles of general thermodynamics AM 479
Shocks and vibration concepts in engineering design ..... AM 957
Similitude and approximation theory AM 238
Six lectures on modern natural philosophy ..... AM 957
Stability and oscillations of elastic systems ..... AM 479
State variables for engineers ..... AM 477
Statics of granular media ..... AM 239
Statistical theory of liquids ..... AM 478
Theoretical hydrodynamics ..... AM 237
Thermal stress and low cycle fatigue AM 957
Two-dimensional problems in hydrodynamics and aerodynamics ..... AM 237

BOOTH, L. A.
The prospects for nuclear reactor-MHD commercial power production ..... P 345

BOOTHROYD, G.
A study of the normal and shear stresses on a cutting tool (D) ..... I 61

BOOY, M. L.
Influence of oblique channel ends on screw-pump performance ..... B 121
A noniterative numerical solution of Poisson's and Laplace's equations with application to slow viscous flow ..... B 725

BORESI, A. P.
Relations among stresses, stress resultants, and moments for the axisymmetric elastic shell problem ..... AM 455

BORGESE, S. F.
Miscrostructural alterations of rolling — bearing steel undergoing cyclic stressing ..... B 555

BOUNDARY LAYERS
Analytic approximations of boundary-layer problems ..... AM 425
The interaction of radiation and convection in the laminar boundary layer HT 205
An investigation of the influence of the boundary layers on the performance of centrifugal-compressor impellers ... B 71
Laminar boundary layer on a rotating circular arc blade ..... B 111
Law of the wake and plane of symmetry flows in three-dimensional turbulent boundary layers ..... B 101
Prediction of heat transfer from laminar boundary layers, with emphasis on large free-stream velocity gradients and highly cooled walls ..... HT 249
Radiative heat transfer through an absorbing boundary layer ..... HT 296
Recent developments in calculation method for turbulent boundary layers with pressure gradients and heat transfer ..... AM 429

BOWERS, R. C.
Friction and wear ..... B 608

BRANCART, CLAUDE P.
A multi-stage slotted blade axial flow pump ..... P 105

BRATT, J. F.
Determination of the yield condition in the third quadrant of the stress plane ..... AM 228

BRERETON, R. C.
Libration analysis of a dumbbell satellite using the WKBI method ..... AM 676

BRIDGEMEN, D. C.
A simplifying concept of the critical region ..... HT 323

BROMLEY, L. A.
Condensation on the evaporation from radially grooved rotating disks ..... HT 80

BROTHERS, A. J.
Fracture toughness determinations of A-302B and Ni-Mo-V steels with various size specimens ..... B 783

BROUSSARD, P. H., JR.
Theory and experiments of squeeze-film gas bearings — Part 1: Cylindrical journal bearing ..... B 191

BROWN, A. R.
Combined free and forced convection in a horizontal circular tube (D) ..... HT 153

BROWN, T. D.
Vanadium pentoxide deposition from combustion gases ..... P 173

BROWN, W. G.
Basic theory of rapid-transit tunnel ventilation ..... I 1

BUCKLING
Dynamic axisymmetric buckling of shallow conical shells subjected to impulsive loads (D) ..... AM 229
Dynamic buckling of a thin cylindrical shell under axial impact ..... AM 105
Dynamic flexural buckling of rods within an axial plastic compression wave .. AM 241
Experimental buckling modes of clamped shallow shells under concentrated load ..... AM 297
Inelastic buckling of rib-cored sandwich cylinders under external hydrostatic pressure ..... AM 593
Influence of transverse shear and edge condition on nonlinear vibration and dynamic buckling of homogeneous and sandwich plates ..... AM 934

BURCH, J. L.
Theory and experiments of squeeze-film gas bearings — Part 1: cylindrical journal bearing ..... B 191

BURNERS
Increase in the maximum heat-release rate and apparent flame strength of opposed-jet diffusion flames under impressed electric fields ..... P 157

BURNS, J. J., JR.
Dynamic axisymmetric buckling of shallow conical shells subjected to impulsive loads (D) ..... AM 229

BURTON, R. A.
Lubricant effects on fatigue in a stationary concentrated contact under vibratory loading ..... B 573

BUTLER, H. W.
Principles of general thermodynamics (BR) ..... AM 479

C

CADDELL, R. M.
Flow characteristics through conical converging dies (D) ..... I 410

CALLADINE, C. R.
Stress concentration in nonlinear creep of a simple shell ..... AM 322

CAMPELL, R. C.
A numerical comparison of the Crandall and the Crank-Nicholson implicit methods for solving a diffusion equation HT 324

CAPS. *See* SHELLS

CARLUCCI, N. A.
Flow losses in abrupt enlargements and contractions ..... P 73; (AC) P 284

CARMAN, C. M.
Low cycle fatigue crack propagation characteristics of high strength steels B 792

CARR, R. B.
Experimental and analytical investigation of the film-conductance-coefficient boundary condition for thermal shock of a conical shell (AC) ..... AM 474

CARRIER, G. F.
An approximate procedure for the solution of a class of transient-wave diffraction problems ..... AM 168

CASE, L. F.
Supersonic cascade tunnel used to evaluate compressor blade performance .... P 153

CASTELLI, VITTORIO
Condensing vapor lubrication of self-acting long journal bearings (D) ..... B 245

CAUGHEY, T. K.
Classical normal modes in damped linear dynamic systems (AC) ..... AM 472
On the almost sure stability of linear dynamic systems with stochastic coefficients (AC) ..... AM 236
On the stability of the impact damper AM 586

CAVITATION. *See also* FLOW OF FLUIDS; HYDROFOILS
Cavitation bubble collapse observations in a venturi ..... B 649
Cavitation hysteresis ..... B 199
Cavitation tests in pipe bends ..... B 252
Effect of exposure time on cavitation damage ..... B 691
Effects of cavitation on periodic wakes behind symmetric wedges ..... B 163
High-frequency fatigue of metals and their cavitation-damage resistance .... I 332
Some physical effects of cavity collapse in liquids ..... B 229
Temperature and scale effects upon cavitation and flashing in free and submerged jets ..... B 525
Two-phase materials attrition problems for Rankine cycle liquid metal power plants ..... P 388

CHADDOCK, J. B.
Analysis of two-phase one-component stratified flow with condensation (D) HT 272

CHANDIRAMANI, K. L.
Some first-passage problems in random vibration ..... AM 532

CHANG, K. T.
Gyrodynamics, new approach and solutions ..... AM 387

CHANNAPRAGADA, R. S.
A new integral equation for heat flux in inverse heat conduction ..... HT 327

CHAPMAN, J.
A note on calculation of waves in a cylindrical shell ..... AM 694

CHATO, J. C.
Analysis of two-phase one-component stratified flow with condensation (D) HT 272
Heat-transfer effects on the developing laminar flow inside vertical tubes .... HT 214
Heat transfer in cylindrical pipes with fully established turbulent flow and exposed to a uniform temperature environment (D) ..... HT 311
Turbulent pipe flow of an internally heat generating fluid (D) ..... HT 321

CHEN, W. T.
On a spheroidal elastic inclusion in a transversely isotropic material under an axisymmetric torsion field ..... AM 944
On some problems in spherically isotropic elastic materials ..... AM 539
On some problems in transversely isotropic elastic materials ..... AM 347

CHENG, K. C.
Analog solution of laminar heat transfer in noncircular ducts by Moiré method and point-matching ..... HT 175
Flow and heat transfer in ducts of arbitrary shape with arbitrary thermal boundary conditions (D) ..... HT 358

CHIANG, D. C.
The effect of anisotrophy and work-hardening characteristics on the stress and strain distribution in deep drawing ..... I 443

CHIEN, SZE-FOO
Laminar, gravitational film flow of liquid on vertical, circular, cylindrical surfaces ..... AM 222
Sudden contraction losses in two-phase flow (D) ..... HT 8

CHIMNEYS
Dynamic stability design of stacks and towers ..... I 462

CHIOU, J. P.
Heat transfer and flow characteristics of porous matrices with radiation as a heat source ..... HT 69

CHITKARA, N. R.
Some experimental results concerning spread in the rolling of lead ..... B 489

CHLORINATION
Chlorination of sea water — effects on fouling and corrosion ..... P 203

CHOU, PEI CHI
A unified approach to cylindrical and spherical elastic waves by method of characteristics ..... AM 159

CHOW, W. L.
Effect of suction and injection on the heat transfer and flow in a turbulent separated airflow (D) ..... HT 282

CHRISTENSEN, R. M.
Deformation of an elastic spherical wedge ..... AM 52
Prediction of the transient response of a linear viscoelastic solid ..... AM 449

CHU, W. H.
Some studies of nonlinear lateral sloshing in rigid containers ..... AM 777

CHUPP, R. E.
Radiant heat transfer between concentric spheres and coaxial cylinders ..... HT 326

CINELLI, G.
Dynamic vibrations and stresses in elastic cylinders and spheres ..... AM 825

CLAMPED JOINTS. *See* JOINTS

CLARK, J. A.
On the solution of the diffusion equations by numerical methods ..... HT 421

CLARK, L. G.
An integral method of Liapunov function generation for nonlinear autonomous systems (AC) ..... AM 713

CLARKE, J. F. (author)
The dynamics of real gases (BR) ..... AM 237

CLIFTON, R. J.
An analysis of longitudinal elastic-plastic pulse propagation ..... AM 248

CLOSE, C. M. (author)
State variables for engineers (BR) ..... AM 477

COATES, N. H.
Bureau of Mines progress in developing open and closed-cycle coal-burning gas turbine power plants ..... P 313

COFER, J. A.
Kinematic synthesis of adjustable four-bar linkages ..... AM 221

COHEN, IRA M.
Engineering magnetohydrodynamics (BR) ..... AM 478
Plasma physics (BR) ..... AM 478

COHEN, M. J.
Peripheral jets in proximity of the ground ..... AM 721

COHEN, P.
A fresh look at the mechanism of corrosion in boilers (D) ..... P 386

COHEN, R.
An analytical study of the dynamics of an elastic linkage ..... I 311

COLE, R. R.
Electrochemical machining — prediction and correlation of process variables .... I 455

COLLINS, D. J.
Measurement of the thermal conductivity of noble gases in the temperature range 1500 to 5000 deg Kelvin ..... HT 52

COLUMNS
Experimental verification of the dynamic stability of a tangentially loaded cantilever column ..... AM 460

COMBUSTION. *See also* CORROSION AND DEPOSITS
Slag-coal interface phenomena ..... P 40; (D) ..... P 285
Thermodynamic properties of combustion products: Equilibrium products of $(CH_2)_k$ with oxygen enriched air .... P 334

COMBUSTORS. *See* BURNERS

COMPOSITE MATERIALS
Axially symmetric motions of a two-layered Timoshenko-type cylindrical shell ..... AM 838
Natural frequencies of vibration of an all-clamped rectangular sandwich panel ..... AM 683
A note on the similarities between the analyses of homogeneous and sandwich plates ..... AM 681

COMPOSITE MATERIALS *(Continued)*
On certain approximations in sandwich plate analysis ..... AM 39: (D) AM 953
Stress distribution in bonded dissimilar materials containing circular or ring-shaped cavities (D) ..... AM 714
COMPRESSORS. *See also* DIFFUSERS; IMPELLERS; TURBOMACHINERY
Analysis of pressure pulsations in reciprocating compressor piping systems ..... I 164
Recent progress in aerodynamic design of axial-flow compressors in the United States ..... P 251
Wall stall in compressor cascades ..... B 637
CONDENSATION. *See also* HEAT TRANSFER
Analysis of two-phase, one-component stratified flow with condensation ... HT 265
Condensation on the evaporation from radially grooved rotating disks ..... HT 80
Laminar film condensation on a vertical nonisothermal plate ..... AM 203
CONDENSERS
Condenser tube materials for seawater service ..... P 410
CONES. *See also* SHELLS
Effect of the starting length on mass transfer from a cone in supersonic flow ..... HT 336
CONTAINERS
Some studies of nonlinear lateral sloshing in rigid containers ..... AM 777
CONVECTION. *See also* HEAT TRANSFER
Film free convection in Helium II ..... HT 343
Turbulent free convection in near-critical water ..... HT 407
COOK, N. H.
Thermal mechanics of tool wear ..... I 93
COOK, R. D.
On certain approximations in sandwich plate analysis ..... AM 39; (AC) AM 954
COOK, R. G.
Some first-passage problems in random vibration ..... AM 532
COOLING. *See* COOLING SYSTEMS; HEAT TRANSFER
CORLETT, R. C.
Direct Monte Carlo calculation of radiative heat transfer in vacuum ..... HT 376
CORNELL, W. G.
A radial diffuser using incompressible flow between narrowly spaced disks (D) .. B 162
CORROSION AND DEPOSITS. *See also* BOILER CORROSION
Chlorination of sea water — effects on fouling and corrosion ..... P 203
Formation of SO_3 in a noncatalytic combustor ..... P 165; (D) P 284
Two-phase materials attrition problems for Rankine cycle liquid metal power plants ..... P 388
Vanadium pentoxide deposition from combustion gases ..... P 173
Nonlinear bending of a stress corrosion specimen ..... I 31
Stress-corrosion susceptibility of high-strength steel, in relation to fracture toughness ..... B 777
COSTELLO, C. P.
Some effects of geometry, orientation, and acceleration on pool film boiling of organic fluids ..... I 17
COTTON, K. C.
Most probable discharge coefficients for ASME flow nozzles (D) ..... B 744
COWPER, G. R.
Shear coefficient in Timoshenko's beam theory ..... AM 335
CRACK PROPAGATION
Low cycle fatigue crack propagation characteristics of high strength steels ..... B 792
CRACKS
An arc crack around a circular elastic inclusion ..... AM 637
Conditions at the root of a crack in a bent plate ..... AM 441
Single-edge crack in rectangular sheet subjected to end rotations ..... AM 689
Three-dimensional stress distribution around an elliptical crack under arbitrary loadings ..... AM 601
CRANDALL, S. H.
Fatigue failure under complex stress histories ..... B 247
Some first-passage problems in random vibration ..... AM 532
CREDE, CHARLES E. (author)
Shocks and vibration concepts in engineering design (BR) ..... AM 957
CREEP OF MATERIALS
Creep rupture of rotating disks and thin shells of revolution (D) ..... AM 477
Creep-rupture properties of 1.25 Cr-0.5 Mo steel after service at 1000 deg F ..... B 669
CREEP OF MATERIALS *(Continued)*
Dimensionless parameter reliability analysis and application to mechanical creep ..... B 87
Effect of creep exposure on the fracture toughness of two low alloy steels ..... B 7
Effect of prior exposure on 1400 F strength of Inco 713 cast nickel-base alloy ..... B 109
A note on the determination of an upper bound on displacement rate for steady creep problems ..... AM 216
Relationship of prior creep exposure to strength of wrought Udiment 700 nickel-base alloy ..... B 4
Stress concentration in nonlinear creep of a simple shell ..... AM 322
CREMERS, CLIFFORD J.
Thermal modeling applied to animal systems ..... HT 125
CRIM, W. M., JR.
Compact AK process nuclear system ... P 127
CROCHET, M. J.
Symmetric deformations of viscoelastic-plastic cylinders ..... AM 327
CROUZET-PASCAL, JACQUES
Transient response of a circular cylinder of arbitrary thickness, in an elastic medium, to a plane dilatational wave ..... AM 521
CRYOGENICS. *See also* LOW-TEMPERATURE RESEARCH
Impact strength of austenitic stainless-steel welds at –320 F — effects of composition, ferrite content, and heat-treatment ..... B 33
CULLEN, T. M.
Creep-rupture properties of 1.25 Cr-0.5 Mo steel after service at 1000 deg F ..... B 669
CURWEN, P. W.
Application of gas bearings to closed-system Brayton-cycle turobachinery — recent accomplishment and potential problem areas ..... P 367
CYLINDERS. *See also* BUCKLING; SHELLS
Axially symmetric motions of a two-layered Timoshenko-type cylindrical shell ..... AM 838
Diffractions of horizontal shear waves by a parabolic cylinder and dynamic stress concentrations ..... AM 785
Dynamic response of a viscoelastic cylinder with ablating inner surface ..... AM 275
Dynamic vibrations and stresses in elastic cylinders and spheres ..... AM 825
Elastic cylindrical shell under radial impulse ..... AM 831
The end problem of hollow cylinders .. AM 685
Inelastic buckling of rib-cored sandwich cylinders under external hydrostatic pressure ..... AM 593
Symmetric deformations of viscoelastic-plastic cylinders ..... AM 327
Thermoelastic stresses in thick-walled cylinders under axial temperature gradient ..... AM 467
Transient natural convection from thin vertical cylinders ..... HT 246
Transient response of a circular cylinder of arbitrary thickness, in an elastic medium, to a plane dilatational wave ..... AM 521

D

DALLY, J. A. (author)
Experimental stress analysis (BR) ..... AM 237
DAMPERS
On the stability of the impact danger AM 586
DAMPING. *See also* VIBRATION
Classical normal modes in damped linear dynamic systems (D) ..... AM 471
Effect of structural damping on the forced vibrations of cylindrical sandwich shells ..... I 318
An experimental study of the response of a small porous chamber to forced oscillations ..... B 21
Normal and quasi-normal modes in damped linear dynamic systems ..... AM 413
A study of fluid squeeze-film damping B 451
A study of the response of a small porous chamber to forced oscillation .... B 25
DANESI, W. P.
Effect of creep exposure on the fracture toughness of two low alloy steels ..... B 7
DANIELS, D. J.
Relation between bubble diameter and frequency of removal from a sphere during film boiling ..... HT 88
DAREING, D. W.
Predicting the stability of long vertical pipe transmitting torque in a viscous medium ..... I 191
DAS, A.
Recent research on cascade-flow problems ..... B 221
DAS, S. P.
Slow steady flow of a viscous liquid in an annulus with uniform arbitrary injection and suction velocities along the walls ..... AM 668
DATA HANDLING
Mechanics of punching circular holes in materials for data handling ..... I 377
DAVIDS, JOSEPH
The radial-equilibrium equation of turbomachinery (D) ..... P 282
DAVIDSON, T. E.
The Bauschinger effect in a high-strength steel ..... B 480
Effect of strain rate on yielding in high strength steels ..... B 367
DAVIES, E. A.
Elastic-plastic solutions for notched shafts in torsion ..... AM 79; (AC) AM 956
DAVIES, J. M.
Input power determined from temperatures in simulated skin protected against thermal radiation ..... HT 154
DEAKIN, M. A. B.
Spinning of a nonhomogeneous circular disk on a horizontal plane ..... AM 219
DEAN, R. C., JR.
Losses in vaneless diffusers of centrifugal compressors and pumps ..... P 49
DEAN, W. R.
Theoretical hydrodynamics (BR) ..... AM 237
DEFLECTION. *See* BENDING
DEFORMATION
Application of the direct stiffness method to plane problems involving large, time-dependent deformations ..... B 771
Deformation of an elastic spherical wedge ..... AM 52
Deformation of open spherical shells under arbitrarily located concentrated loads ..... AM 305
Symmetric deformations of viscoelastic-plastic cylinders ..... AM 327
DEGHETTO, KENNETH
Dynamic stability design of stacks and towers ..... I 462
DELCROIX, J. L. (author)
Plasma physics (BR) ..... AM 478
DENNING, R. E.
Propagation of contact fatigue from surface and subsurface origins (D) ..... B 635
DEPOSITS. *See* CORROSION AND DEPOSITS
DERUNTZ, JOHN A., JR.
Significance of the concentrated load in the limit analysis of conical shells .. AM 93
DERUSSO, P. M. (author)
State variable for engineers (BR) ..... AM 477
DESIGN DATA AND METHODS
Stresses around an elliptical hole in a finite plate subjected to axial loading AM 192
DETCHMENDY, D. M.
Sequential estimation of states and parameters in noisy nonlinear dynamical systems ..... B 362
DEVERALL, L. I.
A new integral equation for heat flux in inverse heat conduction ..... HT 327
DEVINE, R. E.
Effect of exposure time on cavitation damage ..... B 691
DEWERTH, DOUGLAS W.
Effects of particle injection on natural gas flame radiation ..... P 111
DHANAK, A. M.
Momentum transfer in turbulent separated flow past a rectangular cavity AM 641
DIAMOND
The strength of diamond ..... I 373
DIES
Flow characteristics through conical converging dies ..... I 410
DIFFUSERS
Convection heat transfer for turbulent flow in subsonic diffusers ..... HT 391
Losses in vaneless diffusers of centrifugal compressors and pumps ..... P 49
A radial diffuser using incompressible flow between narrowly spaced disks B 155
DIFFUSION
On the solution of the diffusion equations by numerical methods ..... HT 421
DILLON, C. P.
Impact strength of austenitic stainless-steel welds at –320 F — effects of composition, ferrite content, and heat-treatment ..... B 33

DILLON, O. W., JR.
Shock waves produced by small stress increments in annealed aluminum ....AM 907
Waves in bars of mechanically unstable materials ....AM 267

DISKS
Creep rupture of rotating disks and thin shells of revolution (D) ....AM 477
An empirical method of calculating radial pressure distribution on rotating disks P 188
Spinning of a nonhomogeneous circular disk on a horizontal plane ....AM 219

DIXON, J. R.
Thermal flowmeters: the effect of axial conduction ....HT 64

DJOJODIHARDJO, R. H.
Fully developed laminar flow in a stepped rectangular channel ....AM 438

DOANE, JAMES
Vibration analysis of large high-speed rotating equipment (D) ....I 208

DOBAY, G. F.
Effects of cavitation on periodic wakes behind symmetric wedges (D) ....B 176
Experimental observations on the flow past a plano-convex hydrofoil (D) ....B 282

DODGE, F. T.
Calculations of approximate thermophysical properties for ablating specimens exposed to high radiant fluxes ....HT 328

DOLAN, T. J.
Thermal stress and low cycle fatigue (BR) ....AM 957

DOLLAR, W.
Analysis of pneumatic controllers ....B 287

DONACHIE, M. J., JR.
Effect of creep exposure on the fracture toughness of two low alloy steels ....B 7
Effects of prior creep exposure for 1400 F strength of Inco 713 cast nickel-base alloy ....B 109
Relationship of prior creep exposure to strength of wrought Udimet 700 nickel-base alloy ....B 4

DONOHO, C. K.
Creep-rupture properties of centrifugally cast 1¼ Cr-½ Mo alloy steel pipe ..B 755

DOTSON, C. L.
Creep-rupture properties of centrifugally cast 1¼ Cr-½ Mo alloy steel pipe ....B 755

DRING, R. P.
Transient natural convection from thin vertical cylinders ....HT 246

DRUCKER, D. C.
Foundation of solid mechanics (BR) AM 238

DUCTS. *See also* FLOW OF FLUIDS
Analog solution of laminar heat transfer in noncircular ducts by Moiré method and point-matching ....HT 175
Experiments on turbulent heat transfer in an asymmetrically heated rectangular duct ....HT 170
Flow and heat transfer in ducts of arbitrary shape with arbitrary thermal boundary conditions ....HT 351
The mean viscous dissipation and bulk temperature variation in incompressible fully developed duct heat transfer HT 350

DUDLEY, DARLE W.
A behavioral model for the fracture of surface hardened components (D) ....B 284

DUE, H. F., JR.
An empirical method for calculating radial pressure distribution on rotating disks P 188

DUNDURS, J.
Concentrated force near a smooth circular inclusion ....AM 871

DURELLI, A. J. (author)
Introduction to photomechanics (BR) AM 956

DURELLI, A. J.
Moiré patterns of partial derivatives of displacement components ....AM 901
Stresses around an elliptical hole in a finite plate subjected to axial loading AM 192

DUTY, R. L.
Macroscopic interface shape during solidification ....HT 45

E

EBERHARDT, A. D.
Microstructural alterations of rolling-bearing steel undergoing cyclic stressing ....B 555

EBERT, L. J.
Externally pressurized foil gas bearings (AC) ....B 284

ECABERT, R. J.
Steam generators for combined steam and gas turbine plants ....P 402

ECK, B. J.
A computer program for determining the effect of design variation on service stresses in railroad wheels (D) ....I 357

ECKERT, E. R. G.
Combined free and forced convection in a horizontal circular tube ....HT 147
Experimental studies of turbulent flow in a porous circular tube with uniform fluid injection through the tube wall AM 7; (AC) AM 953

EDWARDS, D. K.
Simultaneous radiation, conduction, and convection in a spectrally selective, emitting, and scattering porous bed HT 231

EISENBERG, PHILIP
Effect of exposure time on cavitation damage (D) ....B 699

EISS, N. S., JR.
On the mechanics of the grinding process under plunge cut conditions (D) ..I 79

EJECTORS
Analysis of a magnetohydrodynamic ejector (D) ....AM 473

ELASTICITY
Complementary energy theorem in finite elasticity (D) ....AM 714
Concentrated force near a smooth circular inclusion ....AM 871
Effect of two rigid spherical inclusions on the stresses in an infinite elastic solid AM 68; (D) AM 715
An extension of the Hu-Washizu variational principle in linear elasticity for dynamic problems ....AM 465
Note on some variational principles in elasticity ....AM 447
On fundamental solutions and Green's functions in the theory of elastic plates ....AM 31
On some problems in spherically isotropic elastic materials ....AM 539
On some problems in transversely isotropic elastic materials ....AM 347
Passive-element analog circuits for three-dimensional elasticity ....I 8; (D) I 236
Stability and oscillations of elastic systems (BR) ....AM 479
Strain-gradient effects around cylindrical inclusions and cavities in a field of cylindrically symmetric tension ....AM 57

ELECTRICAL ANALOGS
Electrical network analog to radiative transfer: allowance for specular reflection ....HT 341
Errors due to a representation of source flow in an electrical analogy ....B 139
Passive-element analog circuits for three-dimensional elasticity ....I 8; (D) I 236

ELECTROCHEMICAL MACHINING
Electrochemical machining — prediction and correlation of process variables ....I 455

ELROD, H. G., JR.
An experimental study of the stability of an externally pressurized, gas-lubricated thrust bearing ....AM 25

EL-SADEN, M. R.
Theory of nonequilibrium thermodynamics with application to the transport processes in a solid ....HT 57
Transport processes in magnetosolidmechanics ....AM 770

EL-WAKIL, M. M.
An interferometric study of mass transfer from a vertical plate at low Reynolds numbers ....HT 399
Heat transfer and flow characteristics of porous matrices with radiation as a heat source ....HT 69

EMERY, A. F.
Stress-intensity factors for thermal stresses in thick hollow cylinders ....B 45

ENERGY CONVERSION
Comparison of dynamic and static power conversion systems for undersea missions ....P 323

ENGINES
Application of unsteady gas-dynamic theories to the exhaust system of turbocharged two-stroke engines ....P 31
Derivation of a formula for the thermal loading of certain internal-combustion engines ....P 45

ENGLAND, A. H.
An arc crack around a circular elastic inclusion ....AM 637

ERASLAN, A. H.
The mean viscous dissipation and bulk temperature variation in incompressible fully developed dust heat transfer ....HT 330

ERMER, D. S.
An exploratory study of Taylor's tool-life equation by power transformations ....I 81
Maximum profit as the criterion in the determination of the optimum cutting conditions ....I 435

EROSION
Two-phase materials attrition problems for Rankine cycle liquid metal power plants ....P 388

ESKINAZI, S.
Two-phase turbulent flow in a plane jet AM 735

ESSENBURG, F.
On the contact of two axisymmetric plates ....AM 341

EUBANKS, R. A.
Stress interference in three-dimensional torsion (AC) ....AM 471

EVAN-IWANOWSKI, R. M.
Effects of longitudinal inertia upon the parametric response of elastic columns ....AM 141
Interaction of critical pressures and critical concentrated loads acting on shallow spherical shells ....AM 612

EVANS, HARRY W.
Finned elliptical tubes and their application in air-cooled heat exchangers (D) I 187

EVAPORATION
Condensation on and evaporation from radially grooved rotating disks ....HT 80
Evaporation from a draining liquid film HT 77
An interferometric study of mass transfer from a vertical plate at low Reynolds numbers ....HT 399

EVENSEN, D. A.
Nonlinear flexural vibrations of thin circular rings ....AM 553

EVENSEN, H. A.
Effects of longitudinal inertia upon the parametric response of elastic columns ....AM 141

EXPLOSIVE FORMING. *See* METAL FORMING
EXTRUDERS. *See* PUMPS
EXTRUSION. *See* METAL EXTRUSION

F

FAGAN, WALTER
Nonuniform cooling of a heat-generating cylinder or sphere ....HT 257

FAND, R. M.
Evaluation of Richardson's correlation of the influence of sound on heat transfer as measured by Fand and Kaye ....HT 247

FANG, B. T.
First-harmonic self-equilibrating bending of complete elastic circular cylindrical shells ....AM 226

FARR, A. P.
Effect of standoff tolerances on the fatigue life of a tool-joint pin (D) ....I 215

FATIGUE OF MATERIALS
Correlation of the pitting fatigue life of bearings with rolling contact rig data B 583
Cumulative damage and effect of mean strain in low-cycle fatigue of a 2024-T351 aluminum alloy ....B 801
Effects of standoff tolerances on the fatigue life of a tool-joint pin ....I 211
Equibiaxial low-cycle fatigue properties of typical pressure-vessel steels ....B 745
Fatigue failure under complex stress histories ....B 247
High-frequency fatigue of metals and their cavitation-damage resistance ....I 332
Lubricant effects on fatigue in a stationary concentrated contact under vibratory loading ....B 573
Propagation of contact fatigue from surface and subsurface origins ....B 614
Strain-cycle fatigue of 70-30 copper nickel ....B 552
Thermal stress and low cycle fatigue (BR) AM 957

FAUSKE, HANS K.
Maximum two-phase vessel blowdown from pipes (D) ....HT 294

FEHLING, J.
Effect of section size on notch strength ..B 675

FEIT, D.
Impact on the surface of a compressible fluid ....I 325

FELLINGER, R. C.
Thermodynamic properties of combustion products: Equilibrium products of $(CH_2)_i$ with oxygen enriched air ....P 334

FELSZEGHY, STEPHEN F.
Probability distribution of bilinear system response to impulse excitation ..AM 384

FENG, H. C.
Stresses around an elliptical hole in a finite plate subjected to axial loading AM 192

FERGUSON, C.
Development of a high-temperature molten lithium pump (A) ..... P 13
FERTIK, H. A.
The design of nonlinear multivariable control systems from state dependent linear models ..... B 355
FINE, A. D.
On wave propagation in thermoplastic media ..... AM 514
FINKE, JOHN, JR.
Effect of standoff tolerances on the fatigue life of a tool-joint pin ..... I 211
FINKELSTEIN, A. R.
Myklestad's method for predicting whirl velocity as a function of rotational velocity for flexible multimass rotor systems (AC) ..... AM 472
FINNIE, I.
Mechanism of material removal in the erosive cutting of brittle materials ..... I 393
On the ductile behavior of nominally brittle materials during erosive cutting ..... I 387
FIRE ENGINEERING
Discharge coefficients of fire nozzles ..... B 706
FIRTH, R. D.
Rigid-plastic beams under uniformly distributed impulses (AC) ..... AM 475
FISHER, G. M. C.
A complete stress function solution in the dynamic linear theory of incompressible elastic bodies ..... AM 206
A correspondence principle for free vibrations of a viscoelastic solid ..... AM 924
FISHER, I. Z. (author)
Statistical theory of liquids (BR) ..... AM 478
FISHER, M. J.
Turbulence as a producer of noise in proportional fluid amplifiers ..... AM 728
FITZGERALD, R. C.
Creep-rupture properties of 1.25 Cr-0.5 Mo steel after service at 1000 deg F (D) ..... B 673
FLANGES
Analysis of radially deformed perforated flanges ..... L 172
FLORENCE, A. L.
Clamped circular rigid-plastic plates under blast loading ..... AM 256
Rigid-plastic beams under uniformly distributed impulses (AC) ..... AM 475
Traveling force on a Timoshenko Beam (AC) ..... AM 234
FLOWMETERS
Thermal flowmeters: the effect of axial conduction ..... HT 64
FLOW OF FLUIDS. *See also* BOUNDARY LAYERS; CAVITATION
Analysis of two-phase, one component stratified flow with condensation ..... HT 265
Axisymmetrical turbulent swirling natural-convection plume
Part 1 — Theoretical investigation ..... AM 647
Part 2 — Experimental investigation ..... AM 656
Creeping flow in the region between a moving wedge and a porous plate AM 691
Decay of turbulence in axisymmetric wakes ..... B 261
Effect of suction and injection on the heat transfer and flow in a turbulent separated airflow ..... HT 276
Exact solution for isochoric shear flow of stress rate fluids with constitutive equation linear in stress ..... AM 936
Experimental determination of the critical Reynolds number for pulsating Poiseuille flow ..... B 589
Experimental studies of turbulent flow in a porous circular tube with uniform fluid injection through the tube wall AM 7; (D) AM 950
Flow losses in abrupt enlargements and contractions ..... P 73
Fully developed laminar flow in a stepped rectangular channel ..... AM 438
Heat transfer in cylindrical pipes with fully established turbulent flow and exposed to a uniform temperature environment ..... HT 305
Influence of gravity upon the shape of water bells ..... AM 457
An influence of superheat upon the spray configurations of superheated liquid jets ..... B 685
Internal low Reynolds-number turbulent and transitional gas flow with heat transfer ..... HT 239
Laminar, gravitational film flow of liquid on vertical, circular, cylindrical surfaces ..... AM 222
Momentum transfer in turbulent separated flow past a rectangular cavity ..... AM 641

FLOW OF FLUIDS *(Continued)*
A noniterative numerical solution of Poisson's and Laplace's equations with applications to slow viscous flow ..... B 725
The non-Newtonian squeeze film ..... B 687
Note on developing laminar flow in annuli ..... B 811
On the determination and combination of loss coefficients for compressible fluid flows ..... P 67; (D) P 283
On the unsteady motion of a viscous hydromagnetic fluid contained in a cylindrical vessel ..... AM 748
Phase velocities in boiling flow systems by total energy and by diffusion ..... HT 10
A possibility of eigensolutions for laminar flow in a porous channel ..... AM 200
Pressure losses in vaned elbows of a circular cross section ..... B 684
Quasi-steady flow and thrust in accelerating nozzles and channels ..... I 24
Radial flow without swirl between parallel disks having both supersonic and subsonic regions ..... B 147
Recent research on cascade-flow problems ..... B 221
Remarks on snow cornice theory and related experiments with sink flows ..... B 539
Secondary flows in a incompressible fluid of varying density in a rotating reference frame ..... B 533
Separation in the flow between eccentric rotating cylinders ..... B 717
Slow steady flow of a viscous liquid in an annulus with uniform arbitrary injection and suction velocities along the walls ..... AM 668
Sudden contraction losses in two-phase flow ..... HT 1
Turbulent diffusivity for momentum transfer in concentric annuli ..... B 550
Turbulent pipe flow of an internally heat generating fluid ..... HT 314
Two-phase turbulent flow in a plane jet AM 735
Wall effect in cavity flow ..... B 132
Waves in free surface flow due to an irregular boundary ..... AM 693
FLÜGGE, WILHELM
Point load on a shallow elliptic paraboloid ..... AM 575
FLUID AMPLIFIERS
Flueric separation on pressure signals ..... I 274
Gain characteristics of subsonic pressure-controlled, proportional, fluid-jet amplifiers ..... B 295
Turbulence as a producer of noise in proportional fluid amplifiers ..... AM 728
FLUID ENGINEERING
Transmission of fluid power by pulsating-flow (P-F) concept in hydraulic systems ..... B 316
FLUID MECHANICS. *See also* CAVITATION; FLOW OF FLUIDS
The dynamics of real gases (BR) ..... AM 237
An experimental study of the response of a small porous chamber to forced oscillations ..... B 21
A study of the response of a small porous chamber to forced oscillation ..... B 25
Two-dimensional problems in hydrodynamics and aerodynamics (BR) ..... AM 237
FLUIDS. *See also* FLOW OF FLUIDS
Four-parameter generalized compressibility charts for nonpolar fluids ..... I 263
Impact on the surface of a compressible fluid ..... I 325
FOIT, E.
Steam generators for combined steam and gas turbine plants (D) ..... P 408
FOLK, R. T.
Elastic wave propagation in rods of arbitrary cross section (D) ..... AM 476
FONTENOT, L. L.
On the vibrations of parabolic membranes ..... I 45
FOOTE, J. R.
The C_p for accelerated slender bodies ..... AM 1
FORMAN, R. G.
Effect of plastic deformation on the strain energy release rate in a centrally notched plate subjected to uniaxial tension ..... B 82
FORSBERG, KEVIN
Point load on a shallow elliptic paraboloid ..... AM 575
FOSTER, W. C.
A nonlinear filter for independent gain and phase (with applications) ..... B 457
FOSTER-PEGG, R. W.
Bureau of Mines progress in developing open and closed-cycle coal-burning gas turbine power plants (D) ..... P 320
Steam generators for combined steam and gas turbine plants (D) ..... P 407

FOSTER-PEGG, R. W. *(Continued)*
Trends in combined steam-gas turbine power plants in the U. S. A. ..... P 302
FRAAS, A. P.
A potassium-steam binary vapor cycle for a molten-salt reactor power plant ..... P 355
FRACTURE MECHANICS. *See also* METAL TESTING
A behavioral model for the fracture of surface hardened components (D) ..... B 284
Effect of plastics deformation on the strain energy release rate in a centrally notched plate subjected to uniaxial tension ..... B 82
FRAMES
Plastic analysis and design. vol. 1, beams and frames (BR) ..... AM 479
FRANCIS, P. H.
Wave propagation in thin rods with quiescent temperature gradients ..... AM 702
FRASIER, J. T.
Measurement of dynamic strains using birefringent strips ..... AM 173
FREBERG, C. R.
Passive-element analog circuits for three-dimensional elasticity ..... I 8
FREDERKING, T. H. K.
Relation between bubble diameter and frequency of removal from a sphere during film boiling ..... HT 88
FREEMAN, J. W.
Carbon and carbon-moly steam pipe after long-time service ..... B 14
Creep-rupture properties of 1.25 Cr-0.5 Mo steel after service at 1000 deg F ..... B 669
FRICTION. *See also* BEARINGS; LUBRICANTS AND LUBRICATION
Lubricants and Lubrication
External friction and relationship between adhesion and deformation components ..... B 186
Friction and wear ..... B 608
Friction and wear of materials (BR) ..... AM 479
FRIENDLAND, B.
A technique of quasi-optimum control ..... B 437
FRITSCH, C. A.
Radiative heat transfer through an absorbing boundary layer ..... HT 296
FRITSCH, C. A.
Turbulent free convection in near-critical water (D) ..... HT 413
FROCHT, M. M.
Elastic-plastic solutions for notched shafts in torsion (D) ..... AM 954
FUKUI, K.
Concentrated force near a smooth circular inclusion ..... AM 871
FUKUI, S.
Sheet metal forming research in Japan ..... I 101
FUKUI, T.
Concentrated force near a smooth circular inclusion ..... AM 871
FULTON, R. E.
Dynamic axisymmetric buckling of shallow conical shells subjected to impulsive loads (AC) ..... AM 230
FUNG, Y. C. (author)
Foundation of solid mechanics (BR) AM 238
FURNACES. *See* COMBUSTION

G

GAINES, J. H.
Upper and lower bounds of frequencies for cantilever bars and variable cross sections ..... AM 948
GARCIA, R.
Effect of exposure time on cavitation damage (D) ..... B 701
GARDON, ROBERT
Heat transfer characteristics of impinging two-dimensional air jets ..... HT 101
GARNET, HYMAN
Transient response of a circular cylinder of arbitrary thickness, in an elastic medium, to a plane dilatational wave AM 521
GAS TURBINES. *See also* COMPRESSORS; POWER PLANTS
Compact AK process nuclear system ..... P 127
Contribution on the calculation of gas turbine air heaters fired with gas-coal mixtures ..... P 287
Design and development of the Orenda OT-4 gas turbine ..... P 117
Development of the General Electric LM 1500 gas turbine as a marine power plant ..... P 144
Electric hydraulic governor control for industrial and commercial gas turbine use ..... P 243

GAS TURBINES *(Continued)*
Gas turbine engines in the Royal Canadian Navy prototype hydrofoil vessel P 139
Heat transfer from a shrouded rotating disk with film cooling ..... HT 140
Supersonic cascade tunnel used to evaluate compressor blade performance .. P 153
Traveling-wave vibration of gas-turbine engine shells ..... P 179
GASES
Air tables (BR) ..... AM 238
Dynamics of real air from subcritical temperatures to 1500 K ..... AM 662
The dynamics of real gases (BR) ..... AM 237
Heat transfer measurements from a partially dissociated gas with high Lewis number ..... HT 415
Measurement of the thermal conductivity of noble gases in the temperature range 1500 to 5000 deg Kelvin ..... HT 52
A modified Gibbs experiment ..... I 278
GEARS
Gear lubrication ..... B 602
GEBHART, B.
Transient natural convection from thin vertical cylinders ..... HT 246
GEIGER, G. E.
Sudden contraction losses in two-phase flow ..... HT 1
GERARD, GEORGE
Optimum thin-wall pressure vessels of anisotropic materials ..... AM 623
GERDEEN, J. C.
Design and analysis of commercial pressure vessels to 500,000 psi (D) ..... B 506
GERSTENKORN, G. F.
Application of the direct stiffness method to plane problems involving large, time-dependent deformations ..... B 771
Structural analysis of an arteriole by the direct stiffness method ..... I 363
GHAZI, H. S.
A pressure index for predicting the effect of flow profiles on orifice meter performance ..... B 93
GIBBINGS, J. C.
Errors due to a representation of source flow in an electrical analogy ..... B 139
GIBBONS, W. G.
Strain-cycle fatigue of 70-30 copper nickel ..... B 552
GIBBS EXPERIMENT
A modified Gibbs experiment ..... I 278
GIEDT, W. H.
Heat transfer measurements from a partially dissociated gas with Lewis number ..... HT 415
GIESEKING, D. L.
A nonlinear filter for independent gain and phase (with applications) ..... B 457
GILKEY, H. E.
Mechanics of punching circular holes in materials for data handling ..... I 377
GILLIS, P. P.
On a simplified method for solving impulsively loaded structures of rate-sensitive materials (D) ..... AM 470
GOLDFEIN, SOLOMON
Long-term rupture strength of alloys and plastics from tensile strength at elevated temperatures ..... B 762
GOLDSCHMIDT, V.
Two-phase turbulent flow in a plane jet ..... AM 735
GOODIER, J. N.
Dynamic flexural buckling of rods within an axial plastic compression wave .. AM 241
GOODMAN, L. E.
Stress field created by a circular sliding contact ..... AM 371
GOODSON, R. E.
Identification of systems described by partial differential equations ..... B 463
Optimal feedback solutions for a class of distributed systems ..... B 337
GOPALACHARYULU, S.
Clamped semi-infinite rectangular plates ..... AM 205
GORESH, J. W.
Heat transfer in cylindrical pipes with fully established turbulent flow and exposed to a uniform temperature environment ..... HT 305
GORMAN, D.
Functional representation of nonlinear systems, interpolation and Lagrange expansion for functionals ..... B 429
GOTTENBERG, W. G.
The measurement of mechanical parameters in machines (BR) ..... AM 957
Prediction of the transient response of a linear viscoelastic solid ..... AM 449
GOVERNORS. *See also* AUTOMATIC CONTROL
Electric hydraulic governor control for industrial and commercial gas turbine use ..... P 243
GRANULAR MATERIALS
Statics of granular media (BR) ..... AM 239
GRAY, A. H., JR.
First-passage time in a random vibrational system ..... AM 187
On the almost sure stability of linear dynamic systems with stochastic coefficients (AC) ..... AM 236
GREEN, S. J.
Compressive strain-rate tests on six selected materials at strain rates from 10^{-3} to 10^{4} in/in/sec ..... AM 496
Empirical correlation of factors influencing departure from nucleate boiling in steam-water mixtures flowing in vertical round tubes (D) ..... HT 373
GRIFFIN, W. S.
A study of fluid squeeze-film damping .. B 451
GRIFFITH, P.
Phase velocities in boiling flow systems by total energy and by diffusion (D) .... HT 17
GRINDING AND GRINDING WHEELS
Measurement of the stresses set up in a resin bonded diamond grinding wheel while grinding Harmet G6 tungsten carbide ..... I 157
On the mechanics of the grinding process under plunge cut conditions ..... I 72
Ultrasonic grinding economics ..... I 449
GROSH, R. J.
Radiative heat transfer through an absorbing boundary layer ..... HT 296
GROVER, S. S.
Analysis of pressure pulsations in reciprocating compressor piping systems .... I 164
GROVES, R. N., JR.
On the unsteady motion of a viscous hydromagnetic fluid contained in a cylindrical vessel ..... AM 748
GUARMBY, ALAN
Note on developing laminar flow in annuli ..... B 811
GUBANOVA, I. I. (author)
Stability and oscillations of elastic systems (BR) ..... AM 479
GUERNSEY, ROSCOE
Experimental stress analysis (BR) ..... AM 237
Introduction to photomechanics (BR) AM 956
GUILE, A. E.
Experimental investigation of a magnetically balanced arc in a transverse Argon flow (D) ..... P 277
GUKHMAN, A. A. (author)
Introduction to the theory of similarity (BR) ..... AM 239
GULATI, S. T.
On the contact of two axisymetric plates ..... AM 341
GUNTER, A. Y.
Finned elliptical tubes and their application in air-cooled heat exchangers (D) ..... I 187
GURTIN, M.
Six lectures on modern natural philosophy (BR) ..... AM 957
GUSTAFSON, R. D.
A paper and pencil control system design ..... B 329
GYRODYNAMICS
Gyrodynamics, new approach and solutions ..... AM 387
GYROSCOPES
Hydrodynamic gyroscope ..... AM 768

H

HAAS, W.
Contribution on the calculation of gas turbine air heaters fired with gas-coal mixtures (D) ..... P 301
HADDON, W. D.
Analysis of radially deformed perforated flanges ..... I 172
HADDOW, J. B.
A study of the Knoop hardness test ..... B 682
HAHN, R. S.
On the mechanics of the grinding process under plunge cut conditions ..... I 72
HAJI-SHEIKH, A.
Flow and heat transfer in ducts of arbitrary shape with arbitrary thermal boundary conditions ..... HT 351
Transient heat condition in a prolate spheroidal solid ..... HT 331
HALL, A. S., JR.
An analytical study of the dynamics of an elastic linkage ..... I 311
HALLEEN, R. M.
Laminar boundary layer on a rotating circular arc blade ..... B 111
HALLING, J.
Microslip between a ball and its track in ball-thrust bearings ..... B 213
HALTER, E. J.
Analysis of pressure pulsations in reciprocating compressor piping systems (D) ..... I 168
HAMILTON, D. B.
A theory of lubrication by microirregularities ..... B 177
HAMILTON, G. M.
Stress field created by a circular sliding contact ..... AM 371
HAMILTON'S PRINCIPLE
Some remarks on Hamilton's principle (AC) ..... AM 469
HAMMITT, F. G.
Cavitation bubble collapse observations in a venturi ..... B 649
Effect of exposure time on cavitation damage (D) ..... B 701
Some physical effects of cavity collapse in liquids (D) ..... B 234
Two-phase materials attrition problems for Rankine cycle liquid metal power plants ..... P 388
HANSEN, A. G.
Secondary flows in an incompressible fluid of varying density in a rotating reference frame (D) ..... B 537
HARKER, R. J.
Balancing of flexible rotors having arbitrary mass and stiffness distribution .... I 217
HARTUNG, H. A. (editor)
Lubrication Review: A digest of the literature for 1964 ..... B 599
HATSOPOULOS, G. N. (author)
Principles of general thermodynamics (BR) ..... AM 479
HAUGEN, R. L.
Momentum transfer in turbulent separated flow past a rectangular cavity AM 641
HAYWOOD, R. W.
Sixth International Conference on the properties of steam — supplement on transport properties ..... P 63
HEATERS
Contribution on the calculation of gas turbine air heaters fired with gas-coal mixtures ..... P 287
HEAT-EXCHANGE EQUIPMENT. *See also* CONDENSERS; HEAT TRANSFER
Dynamic analysis and experimental measurements for a single fluid heat exchanger ..... HT 137
Finned elliptical tubes and their application in air-cooled heat exchangers ..... I 179
Fluid center-line-velocity effect on fluid-temperature transients in a heat exchanger ..... B 408
Heat-transfer and flow-friction characteristics of nine pin-fin surfaces ..... HT 383
HEAT TRANSFER. *See Also* ABLATION; BOILING; CONDENSATION; CONVECTION; HEAT-EXCHANGE EQUIPMENT; RADIATION; THERMODYNAMICS
Analog solution of laminar heat transfer in noncircular ducts by Moiré method and point-matching ..... HT 175
Axisymmetrical turbulent swirling natural-convection plume
Part 1—Theoretical investigation .. AM 647
Part 2—Experimental investigation AM 656
Combined free and forced convection in a horizontal circular tube ..... HT 147
Convection heat transfer for turbulent flow in subsonic diffusers ..... HT 391
Direct Monte Carlo calculation of radiative heat transfer in vacuum ..... HT 376
Effect of suction and injection on the heat transfer and flow in a turbulent separated airflow ..... HT 276
Effects of particle injection on natural gas flame radiation ..... P 111
Electrical network analog to radiative transfer: allowance for specular reflection ..... HT 341
Evaluation of Richardson's correlation of the influence of sound on heat transfer as measured by Fand and Kaye ..... HT 247
Experiments on turbulent heat transfer in an asymmetrically heated rectangular duct ..... HT 170
Flow and heat transfer in ducts of arbitrary shape with arbitrary thermal boundary conditions ..... HT 351
Forced convection of a dissipative liquid in a channel with Neumann conditions ..... AM 18
Heat transfer and flow characteristics of porous matrices with radiation as a heat source ..... HT 69
Heat-transfer and flow-friction characteristics of nine pin-fin surfaces ..... HT 383
Heat transfer characteristics of impinging two-dimensional air jets ..... HT 101
Heat transfer during film condensation of a liquid metal vapor ..... HT 19

HEAT TRANSFER *(Continued)*

Heat-transfer effects on the developing laminar flow inside vertical tubes ...HT 214
Heat transfer from an oscillating horizontal wire to water and ethylene glycol ...HT 359
Heat transfer from a shrouded rotating disk with film cooling ...HT 140
Heat transfer from gray fin-tube radiators ...HT 338
Heat transfer in cylindrical pipes with fully established turbulent flow and exposed to a uniform temperature environment ...HT 305
Heat transfer measurements from a partially dissociated gas with high Lewis number ...HT 415
Influence of tube orientation on combined free and forced laminar convection heat transfer ...HT 107
Input power determined from temperatures in simulated skin protected against thermal radiation ...HT 154
The interaction of radiation and convection in the laminar boundary layer HT 205
Internal low Reynolds-number turbulent and transitional gas flow with heat transfer ...HT 239
Laminar forced convection of a dissipative fluid in a channel ...HT 161
Macroscopic interface shape during solidification ...HT 45
The mean viscous dissipation and bulk temperature variation in incompressible fully developed duct heat transfer HT 330
Measurement of the thermal conductivity of noble gases in the temperature range 1500 to 5000 deg Kelvin ...HT 52
A new integral equation for heat flux in inverse heat conduction ...HT 327
Nonuniform cooling of a heat-generating cylinder or sphere ...HT 257
A numerical comparison of the Crandall and the Crank-Nicholson implicit methods for solving a diffusion equation HT 324
Prediction of heat transfer from laminar boundary layers, with emphasis on large free-stream velocity gradients and highly cooled walls ...HT 249
Radiant heat transfer between concentric spheres and coaxial cylinders ...HT 326
Radiative exchange among non-Lambert surfaces ...HT 37
Radiative heat exchange between conducting plates with specular reflection HT 29
Radiative heat transfer through an absorbing boundary layer ...HT 296
Simultaneous radiation, conduction, and convection in a spectrally selective, emitting, and scattering porous bed HT 231
Thermal modeling applied to animal systems ...HT 125
Transient heat conduction in a prolate spheroidal solid ...HT 331
Transient natural convection from thin vertical cylinders ...HT 246
Turbulent heat transfer in the separated, reattached, and redevelopment regions of a circular tube ...HT 131
Variable property effects on the inside surface temperature of a heated tube HT 340

HEATH, C. A.
Some effects of geometry, orientation, and acceleration on pool film boiling of organic fluids ...I 17

HEDLEY, A. B.
Formation of SO_3 in a noncatalytic combustor (D) ...P 284
Vanadium pentoxide deposition from combustion gases ...P 173

HEGEMIER, G. A.
Instability of cylindrical shells subjected to axisymmetric moving loads ...AM 289

HEINSOHN, ROBERT J.
Increase in the maximum heat-release rate and apparent flame strength of opposed-jet diffusion flames under impressed electric fields ...P 157

HEISER, W. H.
Analysis of magnetohydrodynamic ejector (AC) ...AM 474

HELIUM
Film from convection in Helium II ...HT 343

HEMISPHERES. *See* SHELLS

HENKE, RUSS
Transmission of fluid power by pulsating-flow (P-F) concept in hydraulic systems (D) ...B 321

HERBERT, R. E.
Dynamic buckling of a thin cylindrical shell under axial impact ...AM 105

HERING, R. G.
Radiative heat exchange between conducting plates with specular reflection ...HT 29

HERRMANN, G.
On nonconservative stability problems of elastic systems with slight damping AM 125
Torsional instability of cantilevered bars subjected to nonconservative loading AM 102

HERSEY, M. D.
Design of film bearings (BR) ...AM 957
Introduction to the theory of similarity (BR) ...AM 239

HESKESTAD, GUNNAR
Hot-wire measurements in a radial turbulent jet ...AM 417
Remarks on snow cornice theory and related experiments with sink flows ...B 539

HEYMANN, F. J.
Effect of exposure time on cavitation damage (D) ...B 702

HICKLING, R.
Some physical effects of cavity collapse in liquids ...B 229

HIGGINS, THOMAS J.
Passive-element analog circuits for three-dimensional elasticity (D) ...I 236

HILL, JAMES L.
Effect of two rigid spherical inclusions on the stresses in an infinite elastic solid (D) ...AM 715
Pure torsion of an infinite solid containing two rigid spherical inclusions ...AM 201

HILL, P. W.
Inelastic buckling of rib-cored sandwich cylinders under external hydrostatic pressure ...AM 593

HILL, W. J.
An exploratory study of Taylor's tool-life equation by power transformations ...I 81

HILLBRATH, H. S.
On the determination and combination of loss coefficients for compressible fluid flows (D) ...P 283

HILLIER, M. J.
Estimation of dynamic forces in very high-speed impact forging ...I 369
Instability strains in plane sheet under biaxial stress ...AM 282

HIND, E. C.
Analysis of pneumatic controllers ...B 287

HINGLEY, C. L.
Rolling element bearings ...B 599

HITCHCOCK, J. E.
Heat transfer from gray fin-tube radiators ...HT 338

HIXON, C. W.
Experiments on turbulent heat transfer in an asymmetrically heated rectangular duct ...HT 170

HO, B. P. C.
A procedure for calculating the stresses in a centrifugal impeller with cover disk P 395

HODGE, P. G., JR.
Introduction to the mechanics of a continuous medium (BR) ...AM 238
Significance of the concentrated load in the limit analysis of conical shells AM 93

HOFFMANN, J. R.
Compact AK process nuclear system ...P 127

HOGE, K. G.
Some mechanical properties of uranium-10 weight percent molybdenum alloy under dynamic tension loads ...B 509

HOLBROOK, RICHARD L.
Effects of nonsymmetry in strip rolling on single-roll drive mills ...I 401

HOLL, J. WILLIAM
Cavitation hysteresis ...B 199
Effects of cavitation on periodic wakes behind symmetric wedges ...B 163
Some physical effects of cavity collapse in liquids (D) ...B 235

HOLMES, D. R.
A fresh look at the mechanism of corrosion in boilers (D) ...P 384

HOLMES, J. D.
An experimental method for the transverse curvature of a triangular section plate under pure bending ...AM 678

HOLMES, J. W.
Analysis of pressure pulsations in reciprocating compressor piping systems (D) ...I 169

HONIG, J. M.
Theory of nonequilibrium thermodynamics with application to the transport processes in a solid (D) ...HT 62

HOPENFELD, J.
Electrochemical machining — prediction and correlation of process variables ...I 455

HOPKINS, S. E.
Gas turbine engines in the Royal Canadian Navy prototype hydrofoil vessel P 139

HOPKINS, VERN
Automotive lubricants ...B 613
Developments in lubricants ...B 614

HORLOCK, J. H.
Wall stall in compressor cascades ...B 637

HORVAY, G.
Macroscopic interface shape during solidification (D) ...HT 50

HOTTEL, H. C.
Radiative exchange among non-Lambert surfaces ...HT 37

HOWARD, J. H.
Losses in vaneless diffusers of centrifugal compressors and pumps ...P 60

HOWE, E. D.
Cycles for supplying steam to desalting evaporators of dual-purpose power-generation plants (D) ...P 283

HSIEH, JUI SHENG
Four-parameter generalized compressibility charts for nonpolar fluids ...I 263

HSU, C. S.
Stability charts for second-order dynamical systems with time lag ...AM 119
Stability criteria for second-order dynamical systems with time lag ...AM 113

HSU, TAO-CHING
Effect of the rotation of the stress axes on the yield criterion of prestrained materials ...B 61
A study of the normal and shear stresses on a cutting tool ...I 51

HU, W. C. L.
Elastic response of thin spherical shells to axisymmetric blast loading ...AM 800

HUANG, C. L.
Wave propagation in an anisotropic medium with couple-stresses ...AM 939

HUANG, C. P.
Influence of gravity upon the shape of water bells ...AM 457
Relation between bubble diameter and frequency of removal from a sphere during film boiling (D) ...HT 91

HUANG, N. C.
Nonlinear viscoelasticity for short time ranges ...AM 313

HUANG, TSENG
Predicting the stability of long vertical pipe transmitting torque in a viscous medium ...I 191

HUGHES, F. H.
Measurement of the stresses set up in a resin bonded diamond grinding wheel while grinding Harmet G6 tungsten carbide ...I 157

HULL, E. H.
The strength of diamond ...I 373

HUMAN FACTORS ENGINEERING. *See* BIOTECHNOLOGY

HUMMELL, JOHN D.
Formation of SO_3 in a noncatalytic combustor ...P 165; (AC) P 285

HUMMEL, R. L.
Nucleate boiling instability of alkali metals (D) ...HT 193
On correlating the peak and minimum boiling heat fluxes with pressure and heater configuration (D) ...HT 99

HUMPHREYS, J. S.
Dynamic axisymmetric buckling of shallow conical shells subjected to impulsive loads (D) ...AM 230
Rigid-plastic beams under uniformly distributed impulses (D) ...AM 474

HUMPHREYS, R. F.
Condensation on the evaporation from radially grooved rotating disks ...HT 80

HUNDAL, M. S.
Balancing of flexible rotors having arbitrary and stiffness distribution ...I 217

HUNTER, WILLIAM G.
An exploratory study of Taylor's tool-life equation by power transformations (D) ...I 89

HWANG, CHINTSUN
Some experiments on the vibration of a hemispherical shell ...AM 817

HWANG, N. H. C.
Decay of turbulence in axisymmetric wakes ...B 261

HYDRAULIC SYSTEMS
Transmission of fluid power by pulsating-flow (P-F) concept in hydraulic systems ...B 316

HYDRODYNAMICS. *See also* HYDROFOILS
Theoretical hydrodynamics (BR) ...AM 237

HYDROFOILS
Experimental observations on the flow past a plano-convex hydrofoil ...B 273
A note on rudder flutter ...AM 695

HYSTERESIS
A distributed-element model for hysteresis and its steady-state dynamic response ...AM 893

I

IMAI, K.
Pressure losses in vaned elbows of a circular cross section ..... B 684
IMPACT
Impact of a nonlinear viscoplastic rod on a rigid wall ..... AM 505
Longitudinal impact of a semi-infinite circular viscoelastic rod ..... AM 687
On the impact pressure loading of a plastic spherical cap ..... AM 704
IMPELLERS
An investigation of the influence of the boundary layers on the performance of centrifugal-compressor impellers ..... B 71
Laminar boundary layer on a rotating circular arc blade ..... B 111
A procedure for calculating the stresses in a centrifugal impeller with cover disk P 395
IMPULSE EXCITATION
Probability distribution of bilinear system response to impulse excitation AM 384
INFANTE, F. F.
On the global stability of a class of nonlinear time-varying systems (D) ..... B 406
INHABER, H.
Coefficient of friction in cold rolling .... I 421
An empirical equation for the strain-rate effect on roll separating force in cold rolling ..... I 430
INSTRUMENTS, FLOW MEASURING
A pressure index for predicting the effect of flow profiles on orifice meter performance ..... B 93
INSTRUMENTS, MEASURING
The measurement of mechanical parameters in machines (BR) ..... AM 957
IQBAL, M.
Influence of tube orientation on combined free and forced laminar convection heat transfer ..... HT 109
IREY, R. K.
Film free convection in Helium II (D) HT 349
ISBIN, H. S.
Phase velocities in boiling flow systems by total energy and by diffusion (D) .... HT 17
ISIDA, M.
Stress-intensity factors for the tension of an eccentrically cracked strip ..... AM 674
ITO, H.
Pressure losses in vaned elbows of a circular cross section ..... B 684
IVANY, R. D.
Cavitation bubble collapse observations in a venturi ..... B 649
IVES, K. D.
Equibiaxial low-cycle fatigue properties of typical pressure-vessel steels ..... B 745
IWAN, W. D.
A distributed-element model for hysteresis and its steady-state dynamic response ..... AM 893
IYENGAR, K. T. SUNDARA RAJA
The end problem of hollow cylinders AM 685

J

JACKSON, T. R.
Calculations of approximate thermophysical properties for ablating specimens exposed to high radiant heat fluxes .. HT 328
Elastic response of thin spherical shells to axisymmetric blast loading ..... AM 800
JAEGER, L. G.
Vibration of unsymmetrical rotating shafts (D) ..... AM 231
JAHANSHAHI, A.
Quasi-static stresses due to moving temperature discontinuity on a plane boundary ..... AM 814
JAMES, RALPH, JR.
Analysis of pressure pulsations in reciprocating compressor piping systems (D) ..... I 170
JEFFERSON, T. B.
Heat tansfer from an oscillating horizontal wire to water and ethylene glycol ... HT 359
JEKAT, W. K.
Two-phase materials attrition problems for Rankine cycle liquid metal power plants (D) ..... P 392
JENG, D. R.
Radiative heat transfer through an absorbing boundary layer (D) ..... HT 303
JENIKE, ANDREW W.
The use of flow-corrective inserts in bins (D) ..... I 340
JENKINS, D. R.
Kinematic-hardening in zinc-alloy tubes (AC) ..... AM 711
JENSEN, D. E.
Effect of prior creep exposure on 1400 F strength of Inco 713 cast nickel-base alloy ..... B 109
JETS
Heat transfer characteristics of impinging two-dimensional air jets ..... HT 101
Hot-wire measurements in a radial turbulent jet ..... AM 417
Hot-wire measurements in a plane turbulent jet (erratum) ..... AM 710
An influence of superheat upon the spray configurations of superheated liquid jets ..... B 685
Peripheral jets in proximity of the ground ..... AM 721
Temperature and scale effects upon cavitation and flashing in free and submerged jets ..... B 525
Two-phase turbulent flow in a plane jet AM 735
JOHANSON, JERRY R.
The use of flow-corrective inserts in bins I 224
The use of flow-corrective inserts in bins (AC) ..... I 340
JOHNSON, J. L.
Relationship of prior creep exposure to strength of wrought Udimet 700 nickel-base alloy ..... B 4
JOHNSON, W.
Some experimental results concerning spread in the rolling of lead ..... B 489
JOHNSTON, J. P.
Laminar boundary layer on a rotating circular arc blade ..... B 111
Losses in vaneless diffusers of centrifugal compressors and pumps ..... P 49
JOINTS
Compliance under small torsional couple of an elastic plate pressed between two identical elastic spheres ..... AM 377
Effect of standoff tolerances on the fatigue life of a tool-joint pin ..... I 211
JONES, H. F.
Application of gas bearings to closed-system Brayton-cycle turbomachinery — recent accomplishment and potential problem areas ..... P 367
JONES, I. W.
Effect of structural damping on the forced vibrations of cylindrical sandwich shells ..... I 318
JONES, J. B.
Decay of turbulence in axisymmetric wakes (D) ..... B 267
JONES, J. P.
Axially symmetric motions of a two-layered Timoshenko-type cylindrical shell ..... AM 838
JONG, I. C.
On nonconservative stability probiems of elastic systems with slight damping ..... AM 125
JONSSON, V. K.
Turbulent diffusivity for momentum transfer in concentric annuli ..... B 550
JORDAN, D. P. (author)
Air tables (BR) ..... AM 238
JOSEPH, D. D.
Lubrication of a porous bearing — Stokes' solution ..... AM 753
Lubrication of porous bearing — Reynolds' solution ..... AM 761
JURNEY, W. H.
Effect of water immersion on reduction of die stresses in explosive forming .... I 111

K

KACZMAREK, J.
Ultrasonic grinding economics ..... I 449
KALNINS, A.
Deformation of open spherical shells under arbitrarily located concentrated loads ..... AM 305
On fundamental solutions and Green's functions in the theory of elastic plates AM 31
KALPAKJIAN, SEROPE
Dimensional changes in tube swaging .... I 147
KAMADA, T.
On the simple tension of an anisotropic semi-infinite plate with partially stiffened edge ..... AM 945
KAMAL, M. M.
Separation in the flow between eccentric rotating cylinders ..... B 717
KAMIYAMA, S.
Cavitation tests in pipe bends ..... B 252
KANA, D. D.
Some studies of nonlinear lateral sloshing in rigid containers ..... AM 777
KANAN, O.
Determination of the yield condition in the third quadrant of the stress plane AM 228
KANE, T. R.
Attitude stability of a spinning satellite in an elliptic orbit ..... AM 402
KAPLAN, B.
A numerical comparison of the Crandall and the Crank-Nicholson implicit methods for solving a diffusion equation HT 324
KAPLAN, P.
Experimental observations on the flow past a plano-convex hydrofoil (D) .... B 282
KASSIR, M. K.
Three-dimensional stress distribution around an elliptical crack under arbitrary loadings ..... AM 601
KATAYAMA, KINJI
Discharge coefficients of fire nozzles ..... B 706
KATLIN, J. M.
Low cycle fatigue crack propagation characteristics of high strength steels ..... B 792
KATSANIS, THEODORE
Use of arbitrary quasi-orthogonals for calculating flow distribution in a turbomachine ..... P 197
KATZ, SILAS
Flueric operation on pressure signals ..... I 274
KAYS, W. M.
Heat transfer in parallel rod arrays ..... HT 117
KEENAN, J. H. (author)
Principles of general thermodynamics (BR) ..... AM 479
KELLER, R. E.
Study of spatial mechanisms by electronic analog computer ..... I 301
KELLY, R. W.
Development of a high-temperature molten lithium pump ..... P 13
KENDALL, D. P.
Effect of strain rate on yielding in high strength steels ..... B 37
KENIG, M. J.
Shock waves produced by small stress increments in annealed aluminum AM 907
KERR, ARNOLD D.
Effect of lateral hydrostatic pressure on the instability of elastic solids, particularly beams and plates ..... AM 617
KESTIN, J.
Air Tables (BR) ..... AM 238
Sixth International Conference on the properties of steam — transport properties of water substance ..... P 82
KEZIOS, S. P.
Analysis of two-phase, one-component stratified flow with condensation .... HT 265
KHATRI, H. C.
Optimal feedback solutions for a class of distributed systems ..... B 337
KIBEL, I. A. (author)
Theoretical hydrodynamics (BR) ..... AM 237
KINEMATICS
Acceleration analysis of spatial four-link mechanisms ..... I 296
An analytical study of the dynamics of an elastic linkage ..... I 311
Kinematic synthesis of adjustable four-bar linkages ..... AM 221
On infinitesimal cycloidal kinematic theory of planar motion ..... AM 927
Study of spatial mechanisms by electronic analog computer ..... I 301
KING, ALWYN H.
Electron microscopy of stress-induced structural alterations near inclusions in bearing steels ..... B 568
Lubricant effects on fatigue in a stationary concentrated contact under vibratory loading (D) ..... B 580
KINNEY, R. B.
Turbulent pipe flow of an internally heat generating fluid ..... HT 314
KINNEY, W. M.
On steady-state harmonic vibrations of nonlinear systems with many degrees of freedom ..... AM 406
KLEEMAN, G. E.
Phase velocities in boiling flow systems by total energy and by diffusion (D) HT 17
KLEIN, H. A.
Research study on internal corrosion of high-pressure boilers ..... P 232
KLINE, S. J.
Remarks on snow cornice theory and related experiments with sink flows (D) B 547
KLINE, STEPHEN J. (author)
Similitude and approximation theory (BR) ..... AM 238
KNAUSS, W. G.
Stresses in an infinite strip containing a semi-infinite crack ..... AM 356

KOBAYASHI, A. S.
Application of the direct stiffness method to plane problems involving large, time-dependent deformations ..... B 771
Structural analysis of an arteriole by the direct stiffness method ..... I 363
KOBAYASHI, SHIRO
The effect of anisotropy and work-hardening characteristics on the stress and strain distribution in deep drawing .... I 443
Sheet metal forming research in Japan .... I 101
KOCHIN, N. E. (author)
Theoretical hydrodynamics (BR) ..... AM 237
KODISTRA, L. F.
Equibiaxial low-cycle fatigue properties of typical pressure-vessel steels ..... B 745
KOENIG, H. A.
A unified approach to cylindrical and spherical elastic waves by method of characteristics ..... AM 159
KOLSKY, H.
Dynamics of vibrations (BR) ..... AM 956
KOO, W. H.
The Bauschinger effect in a high-strength steel ..... B 480
KOPS, L.
Ultrasonic grinding economics ..... I 449
KORST, H. H.
Effect of suction and injection on the heat transfer and flow in a turbulent separated airflow (D) ..... HT 282
KOSKO, E.
Rational approximations for the lower frequencies of a uniform beam with concentrated mass or rotary inertia AM 445
KOZIN, FRANK
On the almost sure stability of linear dynamic systems with stochastic coefficients (D) ..... AM 234
KRAGHELSKY, I. V.
External friction and relationship between adhesion and deformation components ..... B 186
KRAHULA, J. L.
Out-of-plane free vibrations of a uniform circular ring ..... AM 708
KRALL, K. M.
Turbulent heat transfer in the separated, reattached, and redevelopment regions of a circular tube ..... HT 131
KRAUS, H.
Analysis of radially deformed perforated flanges ..... I 172
On wave propagation in thermoplastic media ..... AM 514
KRONAUER, R. E.
Exchange of energy between oscillations in weakly nonlinear conservative systems ..... AM 451
KROTINE, F. T.
Externally pressurized foil gas bearings (AC) ..... B 284

L

LAI, JAI-LUE
Influence of transverse shear and edge condition on nonlinear vibration and dynamic buckling of homogeneous and sandwich plates ..... AM 934
LAKSHMIKANTHAM, C.
Optimum thin-wall pressure vessels of anisotropic materials ..... AM 623
LAKSHMINARAYANA, B.
Wall stall in compressor cascades ..... B 637
LALL, P. S.
Dynamic analysis and experimental measurements for a single fluid heat exchanger ..... HT 137
LANGLOIS, W. E.
Externally pressurized foil gas bearings (D) ..... B 284
LARRABEE, EUGENE
On the lateral stability and control of the automobile as influenced by the dynamics of the steering system (D) .... I 294
LARSON, J. R.
Turbulent free convection in near-critical water ..... HT 407
LARSON, M. B.
Convection heat transfer for turbulent flow in subsonic diffusers ..... HT 391
LAWRENCE, W. T.
Heat-transfer effects on the developing laminar flow inside vertical tubes .... HT 214
LEE, C. W.
Thermoelastic stresses in thick-walled cylinders under axial temperature gradient ..... AM 467
LEE, E. H.
Nonlinear viscoelasticity for short time ranges ..... AM 313
LEE, SHAO-LIN
Axisymmetrical turbulent swirling natural-convection plume
Part 1—Theoretical investigation .. AM 647
Part 2—Experimental investigation AM 656
LEE, TEH HWEI
Vibration of shallow spherical shells with concentrated mass ..... AM 938
LEES, SIDNEY
Uncertainty and imprecision ..... B 369
LEFEBVRE, EUGENE A.
Thermal modeling applied to animal systems ..... HT 125
LEFKOWITZ, I.
Multilevel approach applied to control system design ..... B 392
LEIPZIGER, STUART
Nonuniform cooling of a heat-generating cylinder or sphere ..... HT 257
LEITH, W. C.
Effect of exposure time on cavitation damage (D) ..... B 704
LEITMAN, M. J.
A correspondence principle for free vibrations of a viscoelastic solid ..... AM 924
LEKO, T.
Stress distribution in bonded dissimilar materials containing circular or ring-shaped cavities (D) ..... AM 714
Stress interference in three-dimensional torsion (D) ..... AM 471
LESSEN, MARTIN
On the solution to transient coupled thermoelastic problems by perturbation techniques (D) ..... AM 475
LETOURNEAU, B. W.
Empirical correlation of factors influencing departure from nucleate boiling in steam-water mixtures flowing in vertical round tubes (D) ..... HT 373
LEUNG, A. T.
Simultaneous radiation, conduction, and convection in a spectrally selective, emitting, and scattering porous bed HT 231
LEUNG, PAUL
Cycles for supplying steam to desalting evaporators of dual-purpose power-generation plants ..... P 22; (AC) P 283
LEVINSON, MARK
Complimentary energy theorem in finite elasticity (AC) ..... AM 715
LEVY, M. J.
A modified Gibbs experiment ..... I 278
LEVY, SAMUEL
A computer program for determining the effect of design variation on service stresses in railroad wheels ..... I 352
LEYDA, WILLIAM E.
Creep-rupture properties of 1.25 Cr-0.5 Mo steel after service at 1000 deg F (D) ..... B 674
LIBBY, PAUL A.
Two-dimensional problems in hydrodynamics and aerodynamics (BR) ..... AM 237
LIBOVE, CHARLES
Complimentary energy theorem in finite elasticity (D) ..... AM 714
LICHT, L.
An experimental study of the stability of an externally pressurized, gas-lubricated thrust bearing ..... AM 25
Preliminary experiments with foil bearings ..... B 1
LIENHARD, J. H.
Influence of gravity upon the shape of water bells ..... AM 457
An influence of superheat upon the spray configurations of superheated liquid jets ..... B 685
On correlating the peak and minimum boiling heat fluxes with pressure and heater configuration ..... HT 94
Relation between bubble diameter and frequency of removal from a sphere during film boiling (D) ..... HT 91
Temperature and scale effects upon cavitation and flashing in free and submerged jets ..... B 525
LILEY, P. E.
Measurement of the thermal conductivity of noble gases in the temperature range 1500 to 5000 deg Kelvin (D) HT 55
LIN, T. H.
Slip strains and stresses in polycrystalline aggregates under cyclic load ..... AM 363
LIN, Y. K.
Classical normal modes in damped linear dynamic systems (D) ..... AM 471
LINDBERG, H. E.
Dynamic buckling of a thin cylindrical shell under axial impact ..... AM 105
LINKAGES. *See* KINEMATICS
LIQUID METALS. *See also* HEAT TRANSFER
Effects of surface conditions on nucleate pool boiling of sodium ..... HT 196
Nucleate boiling instability of alkali metals ..... HT 183
LIQUIDS
Statistical theory of liquids (BR) ..... AM 478
LITTMANN, W. E.
Electron microscopy of stress-induced structural alterations near inclusions in bearing steels (D) ..... B 571
Microstructural alterations of rolling — bearing steel undergoing cyclic stressing (D) ..... B 565
Propagation of contact fatigue from surface and subsurface origins ..... B 624
LLOYD, J. R.
Experiments on turbulent heat transfer in an asymmetrically heated rectangular duct ..... HT 170
LOHMANN, R. P.
An investigation of the influence of the boundary layers on the performance of centrifugal-compressor impellers ..... B 71
LOMEN, D. O.
On the vibrations of parabolic membranes ..... I 45
LONG, WILLIAM
Dynamic stability design of stacks and towers ..... I 462
LOO, TA-CHENG
Interaction of critical pressures and critical concentrated loads acting on shallow spherical shells ..... AM 612
LORD, W. T.
Experimental investigation of a magnetically balanced arc in a transverse Argon flow (D) ..... P 278
LOSCUTOFF, W. V.
Fluid center-line-velocity effect on fluid-temperature transients in a heat exchanger ..... B 408
LOUIS, J. F.
Wall stall in compressor cascades ..... B 637
LOVELL, E. G.
Effect of pressurization on the cylindrical shell under nearly uniform radial impulse ..... AM 454
LOW-TEMPERATURE RESEARCH. *See* CRYOGENICS
LUBRICANTS AND LUBRICATION. *See also* BEARINGS; FRICTION; WEAR
Automotive lubricants ..... B 613
Boundary lubrication ..... B 606
Condensing vapor lubrication of self-acting long journal bearings ..... B 236
Developments in lubricants ..... B 614
Gear lubrication ..... B 602
Lubricant effects on fatigue in a stationary concentrated contact under vibratory loading ..... B 573
Lubrication of a porous bearing — Reynolds' solution ..... AM 761
Lubrication of a porous bearing — Stokes' solution ..... AM 753
Lubrication Review: A digest of the literature for 1964 ..... B 599
Metalworking lubricants ..... B 612
A theory of lubrication by microirregularities ..... B 177
LUDWIG, G. A.
Vibration analysis of large high-speed rotating equipment ..... I 201
LYNCH, R. B.
Vibration analysis of large high-speed rotating equipment (D) ..... I 208
LYSEN, J. C.
Experimental investigation of a magnetically balanced arc in a transverse Argon flow ..... P 27; (AC) P 281

M

MACHINE TOOLS. *See also* METAL CUTTING
An exploratory study of Taylor's tool-life equation by power transformations .... I 81
Thermal mechanics of tool wear ..... I 93
MACHINING. *See* METAL CUTTING
MACKE, H. J.
Traveling-wave vibration of gas-turbine engine shells ..... P 179
MAGNETOFLUIDMECHANIC DEVICES. *See* MAGNETOHYDRODYNAMICS
MAGNETOHYDRODYNAMICS
Analysis of a magnetohydrodynamic ejector (D) ..... AM 473
Engineering magnetohydrodynamics (BR) ..... AM 478
Experimental investigation of a magnetically balanced arc in a transverse Argon flow ..... P 27; (D) P 277
The prospects for nuclear reactor-MHD commercial power production ..... P 345

MAGNETOSOLIDMECHANICS
Transport processes in magnetosolidmechanics ..... AM 770
MAIDEN, C. J.
Compressive strain-rate tests on six selected materials at strain rates from 10^{-3} to 10^{4} in/in/sec ..... AM 496
MAINS, R. M.
Shocks and vibration concepts in engineering design (BR) ..... AM 957
MALANOSKI, S. B.
Theory and experiments of squeeze-film gas bearings — Part 1: cylindrical journal bearing ..... B 191
MALLOY, G. T.
The strength of diamond ..... I 373
MANFREDI, D. V.
Development of a high-temperature molten lithium pump ..... P 13
MANN, G. M. W.
A fresh look at the mechanism of corrosion in boilers (D) ..... P 383
MANNING, G. B.
Compact AK process nuclear system ..... P 127
MANSON, S. S. (author)
Thermal stress and low cycle fatigue (BR) ..... AM 957
MARIN, JOSEPH
Cumulative damage and effect of mean strain in low-cycle fatigue of a 2024-T351 aluminum alloy ..... B 801
MARINE ENGINEERING. *See also* SHIPS
Development of the General Electric LM 1500 gas turbine as a marine power plant ..... P 144
MARRIS, A. W.
Exact solution for isochoric shear flow of stress rate fluids with constitutive equation linear in stress ..... AM 936
Secondary flows in an incompressible fluid of varying density in a rotating reference frame ..... B 533
MARSH, T. F.
A fresh look at the mechanism of corrosion in boilers (D) ..... P 384
MARTIN, G.
Plastic bending of beams considering die friction effects ..... I 237
MARTIN, J. A.
Microstructural alterations of rolling — bearing steel undergoing cyclic stressing ..... B 555
MARTIN, J. B.
A note on the determination of an upper bound on displacement rates for steady creep problems ..... AM 216
A note on the uniqueness of solutions for dynamically loaded rigid-plastic and rigid-viscoplastic continua ..... AM 207
MARTINEZ, E.
An experimental study of the response of a small porous chamber to forced oscillations ..... B 21
MARTINEZ, E.
A study of the response of a small porous chamber to forced oscillation ..... B 25
MARTO, P. J.
Effects of surface conditions on nucleate pool boiling of sodium ..... HT 196
Nucleate boiling instability of alkali metals ..... HT 183
MASRI, S. F.
On the stability of the impact damper ..... AM 586
MASSONET, C. E. (author)
Plastic analysis and design, vol. 1, beams and frames (BR) ..... AM 479
MASS TRANSFER
Effect of the strating length on mass transfer from a cone in supersonic flow ..... HT 336
An interferometric study of mass transfer from a vertical plate at Reynolds numbers ..... HT 399
MATHEMATICS. *See also* AUTOMATIC CONTROL
Identification of systems described by partial differential equations ..... B 463
A modified Ritz method ..... AM 224
Moiré patterns of partial derivatives of displacement components ..... AM 901
Multiparameter perturbation solution of algebraic equations ..... AM 218
A noniterative numerical solution of Poisson's and Laplace's equations with applications to slow viscous flow ..... B 725
On a class of exact solutions of the Navier-Stokes equations ..... AM 696
MATULA, RICHARD A.
Comparison between exact and one-dimensional theories for incipient melting in reentry simulation ..... HT 428
MAYBEE, J. S.
Normal and quasi-normal modes in damped linear dynamic systems ..... AM 413
MCALISTER, K. W.
Creeping flow in the region between a moving wedge and a porous plate ..... AM 691
MCCHESNEY, M. (author)
The dynamics of real gases (BR) ..... AM 237
MCCOMAS, S. T.
Combined free and forced convection in a horizontal circular tube ..... HT 147
MCCORMICK, M. E.
A note on rudder flutter ..... AM 695
MCELIGOT, D. M.
Heat transfer in cylindrical pipes with fully established turbulent flow and exposed to a uniform temperature environment (D) ..... HT 312
Internal low Reynolds-number turbulent and transitional gas flow with heat transfer ..... HT 239
MCELVAIN, R. J.
Minimization of solar radiation pressure effects for gravity-gradient stabilized satellites ..... B 444
MCFADDEN, P. W.
Effect of the starting length on mass transfer from a cone in supersonic flow ..... HT 336
Film free convection in Helium II ..... HT 343
The interaction of radiation and convection in the laminar boundary layer ..... HT 205
MCGEE, L. P.
Bureau of Mines progress in developing open and closed-cycle coal-burning gas turbine power plants ..... P 313
MCIVOR, I. K.
Effect of pressurization on the cylindrical shell under nearly uniform radial impulse ..... AM 454
Elastic cylindrical shell under radial impulse ..... AM 831
MCKINNON, C. N.
Experimental investigation of a magnetically balanced arc in a transverse Argon flow ..... P 27; (AC) P 281
MECHANICS
An analysis of longitudinal elastic-plastic pulse propagation ..... AM 248
Exchange of energy between oscillations in weakly nonlinear conservative systems ..... AM 451
Foundation of solid mechanics (BR) ..... AM 238
Introduction to the mechanics of a continuous medium (BR) ..... AM 238
Newton's method applied to problems in nonlinear mechanics (D) ..... AM 234
The non-linear field theories of mechanics (BR) ..... AM 958
Probability distribution of bilinear system response to impulse excitation ..... AM 384
Traveling force on a Timoshenko beam (D) ..... AM 233
MECHANISMS. *See* KINEMATICS
MECK, H. R.
Analysis of a semi-infinite strip with constant stress flanges under concentrated loads ..... AM 571
MEDICK, M. A.
One-dimensional theories of wave propagation and vibrations in elastic bars of rectangular cross section ..... AM 489
MEHR, C. B.
On the almost sure stability of linear dynamic systems with stochastic coefficients (D) ..... AM 234
MEIXNER, J.
Consequences of an inequality in nonequilibrium thermodynamics ..... AM 481
MELTING. *See* ABLATION
MENARD, W. A.
Measurement of the thermal conductivity of noble gases in the temperature range 1500 to 5000 deg Kelvin ..... HT 52
METAL CREEP. *See* CREEP OF MATERIALS
METAL CUTTING. *See also* GRINDING AND GRINDING WHEELS; MACHINE TOOLS
Maximum profit as the criterion in the determination of the optimum cutting conditions ..... I 435
Mechanism of material removal in the erosive cutting of brittle materials ..... I 393
Modern metals machining technology ..... I 65
On the ductile behavior of nominally brittle materials during erosive cutting ..... I 387
A plasticity problem involving plane strain and plane stress simultaneously; groove formation in the machining of high-temperature alloys ..... I 142
A study of the normal and shear stresses on a cutting tool ..... I 51
METAL DRAWING
The effect of anisotropy and work-hardening characteristics on the stress and strain distribution in deep drawing ..... I 443
METAL EXTRUSION
Experimental study of hydrostatic extrusion ..... B 658
METAL FATIGUE. *See* FATIGUE OF MATERIALS
METAL FORGING
Estimation of dynamic forces in very high-speed impact forging ..... I 369
METAL FORMING. *See also* METALWORKING
Dimensional changes in tube swaging ..... I 147
Effect of water immersion on reduction of die stresses in explosive forming ..... I 111
Flow characteristics through conical converging dies ..... I 410
Sheet metal forming research in Japan ..... I 101
METAL HARDENING
Kinematic-hardening in zinc-alloy tubes (D) ..... AM 710
METAL ROLLING
Coefficient of friction in cold rolling ..... I 421
Effects of nonsymmetry in strip rolling on single-roll drive mills ..... I 401
An empirical equation for the strain-rate effect on roll separating force in cold rolling ..... I 430
Some experimental results concerning spread in the rolling of lead ..... B 489
METAL TESTING. *See also* FRACTURE MECHANICS
Creep-rupture properties of centrifugally cast 1¼ Cr-1/2 Mo alloy steel pipe ..... B 755
Determination of the yield condition in the third quadrant of the stress plane ..... AM 228
Effect of section size on notch strength ..... B 675
Fracture toughness determinations of A-302B and Ni-Mo-V steels with various size specimens ..... B 783
A study of the Knoop hardness test ..... B 682
METALS. *See also* LIQUID METALS
Cryogenic temperature dependence of the yield strength of high-strength alloys ..... I 117
Long-term rupture strength of alloys and plastics from tensile strength at elevated temperatures ..... B 762
Parameter representation of low-temperature yield behavior of body-centered cubic transition metals ..... B 518
Some mechanical properties of uranium-10 weight percent molybdenum alloy under dynamic tension loads ..... B 509
METALWORKING
Metalworking lubricants ..... B 612
METERS. *See* INSTRUMENTS
METZGER, DARRYL E.
Heat transfer characteristics of impinging two-dimensional air jets (D) ..... HT 107
Heat transfer from a shrouded rotating disk with film cooling ..... HT 140
MIETH, HUGO C.
Finned elliptical tubes and their application in air-cooled heat exchangers (D) ..... I 187
MIKHIN, N. M.
External friction and relationship between adhesion and deformation components ..... B 186
MIKLOWITZ, JULIUS
Elastic wave propagation in rods of arbitrary cross section (AC) ..... AM 477
MILES, J. W.
One-dimensional stress-wave propagation in a heterogeneous medium ..... AM 947
Response of a layered half-space to a moving load ..... AM 680
MILICH, J. J.
Development of a high-temperature molten lithium pump ..... P 13
MILLER, J. A.
Heat transfer from an oscillating horizontal wire to water and ethylene glycol (D) ..... HT 363
MILLER, W. R.
Cumulative damage and effect of mean strain in low-cycle fatigue of a 2024-T351 aluminum alloy ..... B 801
MILLIGAN, R. V.
The Bauschinger effect in a high-strength steel ..... B 480
MINTZ, M. D. (author)
Air tables (BR) ..... AM 238
MITCHELL, J. W.
Heat transfer from a shrouded rotating disk with film cooling ..... HT 140
Heat transfer in cylindrical pipes with fully established turbulent flow and exposed to a uniform temperature environment (D) ..... HT 311
MITCHELL, T. M.
Cavitation bubble collapse observations in a venturi ..... B 649
MODELS
Identification of systems described by partial differential equations ..... B 463

MODI, V. J.
Libration analysis of a dumbbell satellite using the WKBI method ..... AM 676
MOFFATT, W. C.
Analysis of magnetohydrodynamic ejector (D) ..... AM 473
MOIRÉ PATTERNS
Moiré patterns of partial derivatives of displacement components ..... AM 901
MOLLER, P. S.
A radial diffuser using incompressible flow between narrowly spaced disks ..... B 155
Radial flow without swirl between parallel disks having both supersonic and subsonic regions ..... B 147
MOODY, F. J.
Maximum two-phase vessel blowdown from pipes ..... HT 285
MOORE, A. H.
A numerical comparison of the Crandall and the Crank-Nicholson implict methods for solving a diffusion equation HT 324
MOORE, RAYMOND E.
Cycles for supplying steam to desalting evaporators of dual-purpose power-generation plants ..... P 22; (AC) P 283
MORGAN, W. B.
Experimental observations on the flow past a plano-convex hydrofoil (D) .... B 282
MORGENTHALER, GEORGE W.
Normal modal vibrations for some damped *n*-degree-of-freedom nonlinear systems ..... AM 877
MORROW, JODEAN
Correlation of the pitting fatigue life of bearings with rolling contact rig data B 583
MOTE, C. D., JR.
On the nonlinear oscillation of an axially moving string ..... AM 463
Theoretical and experimental band saw vibrations ..... I 151
MOTOR VEHICLES. *See also* AUTOMOTIVE ENGINEERING
Design requirements for MC-331 vehicles ..... I 258
MOUNTFORT, M. V.
A transformation in coupled thermoelasticity problems ..... AM 196
MOW, C. C.
An approximate procedure for the solution of a class of transient-wave diffraction problems ..... AM 168
Dynamic stresses around a fluid-filled cavity ..... AM 793
On the transient motion of a rigid spherical inclusion in an elastic medium and its inverse problem ..... AM 807
MOWBRAY, D. F.
Fracture toughness determinations of A-302B and Ni-Mo-V steels with various size specimens ..... B 783
MULHERIN, J. H.
Stress-corrosion susceptibility of high-strength steel, in relation to fracture toughness ..... B 777
MURAKAMI, MITSUKIYO
Discharge coefficients of fire nozzles .... B 706
MURAKAMI, S.
Large deflection in elastoplastic bending of a simply supported circular plate under a uniform load ..... AM 866
MURPHY, G. J.
The use of Lur'e forms to establish a sufficient condition for stability of a class of discrete feedback systems with parallel nonlinear elements ..... B 379
MURRAY, W.
Condensation on and evaporation from radially grooved rotating disks ..... HT 80
MUSA, S. A.
Exchange of energy between oscillations in weakly nonlinear conservative systems ..... AM 451
MYERS, G. E.
Heat transfer in cylindrical pipes with fully established turbulent flow and exposed to a uniform temperature environment (D) ..... HT 311
An interferometric study of mass transfer from a vertical plate at low Reynolds numbers ..... HT 399
MYERS, T. W.
Experimental investigation of a magnetically balanced arc in a transverse Argon flow ..... P 27; (AC) P 281

N

NA, TSUNG YEN
The non-Newtonian squeeze film ..... B 687
NAGULESWARAN, S.
Theoretical and experimental band saw vibrations ..... I 151
NAHAVANDI, A. N.
Maximum two-phase vessel blowdown from pipes (D) ..... HT 294
Steam generator water-level control ..... B 343
NATURAL PHILOSOPHY
Six lectures on modern natural philosophy (BR) ..... AM 957
NAYAK, P. N.
Thermal mechanics of tool wear ..... I 93
NELSON, IVAN
Plane waves in an elastic-plastic half-space due to combined surface pressure and shear ..... AM 149
NEMAT-NASSER, S.
Torsional instability of cantilevered bars subjected to nonconservative loading AM 102
NEUBAUER, A. H., JR.
An analytical study of the dynamics of an elastic linkage ..... I 311
NEWMAN, R. L.
Temperature distribution in an ablating solid ..... HT 335
NICKEL, E.
Contribution on the calculation of gas turbine air heaters fired with gas-coal mixtures ..... P 287
NIEDERBERGER, R. B.
Condenser tube materials for seawater service ..... P 140
NIKOLAI, R. J.
Relations among stresses, stress resultants, and moments for the axisymmetric elastic shell problem ..... AM 455
NOLL, W. (author)
The non-linear field theories of mechanics (BR) ..... AM 958
NONLINEAR MECHANICS. *See* MECHANICS
NONLINEAR SYSTEMS
Exchange of energy between oscillations in weakly nonlinear conservative systems ..... AM 451
Normal modal vibrations for some damped n-Degree-of-Freedom nonlinear systems ..... AM 877
NOVAK, G. E.
A computer program for determining the effect of design variation on service stresses in railroad wheels (D) ..... I 357
NOZZLES. *See also* FLOW OF FLUIDS; ORIFICES
Discnarge coefficients of fire nozzles ..... B 706
Most probable discharge coefficients for ASME flow nozzles ..... B 734

O

OATES, G. C.
Analysis of magnetohydrodynamic ejector (D) ..... AM 473
O'BRIEN, E. E.
A note on small amplitude vibration of a subliming disk above a heated plate HT 333
O'BRIEN, JOHN L.
Electron microscopy of stress-induced structural alterations near inclusions in bearing steels ..... B 568
Microstructural alterations of rolling — bearing steel undergoing cyclic stressing (D) ..... B 567
O'CONNOR, J. J.
Compliance under a small torsional couple of an elastic plate pressed between two identical elastic spheres ..... AM 377
OHASHI, Y.
Large deflection in elastoplastic bending of a simply supported circular plate under a uniform load ..... AM 866
OHJI, KITOTSUGH
Cumulative damage and effect of mean strain in low-cycle fatigue of a 2024-T351 aluminum alloy ..... B 801
OKAMURA, K.
A simplified steepest-ascent method .. AM 452
O'KELLY, M. E. J.
Classical normal modes in damped linear dynamic systems (AC) ..... AM 472
OLIVER, CALVIN C.
The interaction of radiation and convection in the laminar boundary layer HT 205
O'LOUGHLIN, J. R.
Evaporation from a draining liquid film HT 77
OLSON, REUBEN M.
Experimental studies of turbulent flow in a porous circular tube with uniform fluid injection through the tube wall AM 7; (AC) AM 953
OPRECHT, U.
Application of gas bearings to closed-system Brayton-cycle turbomachinery — recent accomplishment and potential problem areas (D) ..... P 377
ORIFICE METERS. *See* INSTRUMENTS, FLOW MEASURING
ORIFICES
Quadrant-edge orifice and performance at very high Reynolds Numbers ..... B 9
ORMAND, L. W.
Internal low Reynolds-number turbulent and transitional gas flow with heat transfer ..... HT 239
OSCILLATION
Exchange of energy between oscillations in weakly nonlinear conservative systems ..... AM 451
On the nonlinear oscillation of an axially moving string ..... AM 463
Reciprocal theorem for harmonic oscillations of an elastic, isotropic medium .. I 350
Stability and oscillations of elastic systems (BR) ..... AM 479
OSTERLE, J. F.
Theory of nonequilibrium thermodynamics with application to the transport processes in a solid (D) ..... HT 62
OWCZAREK, J. A.
On a wave phenomenon in turbines ..... P 262

P

PAI, R. H.
Empirical correlation of factors influencing departure from nucleate boiling in steam-water mixtures flowing in vertical round tubes ..... HT 367
PAN, C. H. T.
Externally pressurized foil gas bearings (D) ..... B 284
Theory and experiments of squeeze-film gas bearings — Part 1: Cylindrical journal bearing ..... B 191
PANELS. *See* PLATES
PANOVKO, Y. (author)
Stability and oscillations of elastic systems (BR) ..... AM 479
PAO, YIH-HSING
Diffractions of horizontal shear waves by a parabolic cylinder and dynamic stress concentrations ..... AM 785
PARKIN, B. R.
Experimental observations on the flow past a plano-convex hydrofoil (D) .... B 283
Wall effect in cavity flow (D) ..... B 136
PARKS, V. J.
Moiré patterns of partial derivatives of displacement components ..... AM 901
Stresses around an elliptical hole in a finite plate subjected to axial loading AM 192
PASINT, D.
Empirical correlation of factors influencing departure from nucleate boiling in steam-water mixtures flowing in vertical round tubes ..... HT 367
PAUL, B.
Kinematic-hardening in zinc-alloy tubes (D) ..... AM 710
PEARSON, J. D.
Thermodynamic properties of combustion products: Equilibrium products of $(CH_2)_k$ with oxygen enriched air ..... P 334
PENNING, F. A.
Experimental buckling modes of clamped shallow shells under concentrated load AM 297
Nonaxisymmetric behavior of shallow shells loaded at the apex ..... AM 699
PENNY, W. R.
Heat transfer for an oscillating horizontal wire to water and ethylene glycol .... HT 359
PENZIEN, JOSEPH
Stress concentrations in thin spherical shells ..... I 231
PERALTA, L. A.
An approximate procedure for the solution of a class of transient-wave diffraction problems ..... AM 168
PERCIVAL, P. M. E.
Wall stall in compressor cascades ..... B 637
PERDREAUVILLE, F. J.
Identification of systems described by partial differential equations ..... B 463
PERKINS, H. C.
Heat transfer in cylindrical pipes with fully established turbulent flow and exposed to a uniform temperature environment (D) ..... HT 311
Internal low Reynolds-number turbulent and transitional gas flow with heat transfer ..... HT 239
Laminar forced convection of a dissipative fluid in a channel (D) ..... HT 167
PERRONE, NICHOLAS
A mathematically tractable model of strain-hardening, rate-sensitive plastic flow ..... AM 210

PERRONE, NICHOLAS *(Continued)*
On a simplified method for solving impulsively loaded structures of rate-sensitive materials (AC) ..... AM 470
PESKIN, R. L.
An experimental study of the response of a small porous chamber to forced oscillations ..... B 21
A study of the response of a small porous chamber to forced oscillation ..... B 25
PETERSON, H. C.
Spectral analysis of the transient response of a system to random excitation ..... AM 700
PHOTOMECHANICS
Introduction to photomechanics (BR) AM 956
PIERCE, F. J.
Low of the wake and plane of symmetry flows in three-dimensional turbulent boundary layers ..... B 101
PINEGIN, S. V.
Mechanism of rolling in force contact of elastic bodies ..... B 269
PINKOWISH, A. A.
Effects of prior creep exposure for 1400 F strength of Inco 713 cast nickel-base alloy ..... B 109
PINKUS, O.
Dynamics of real air from subcritical temperatures to 1500 K ..... AM 662
PIPES
Carbon and carbon-moly steam pipe after long-time service ..... B 14
Creep-rupture properties of centrifugally cast 1¼ Cr-½ Mo alloy steel pipe ..... B 755
Heat transfer in cylindrical pipes with fully established turbulent flow and exposed to a uniform temperature environment ..... HT 305
Maximum two-phase vessel blowdown from pipes ..... HT 285
Predicting the stability of long vertical pipe transmitting torque in a viscous medium ..... I 191
PIPING SYSTEMS
Analysis of pressure pulsations in reciprocating compressor piping systems ..... I 164
PIPKIN, A. C.
The non-linear field theories of mechanics (BR) ..... AM 958
PITTS, J. H.
Variable property effects on the inside surface temperature of a heat tube HT 340
PLASMA
Plasma physics (BR) ..... AM 478
PLASTICITY
A mathematically tractable model of strain-hardening, rate-sensitive plastic flow ..... AM 210
A note on the uniqueness of solutions for dynamically loaded rigid-plastic and rigid-viscoplastic continua ..... AM 207
PLASTICS
Long-term rupture strength of alloys and plastics from tensile strength at elevated temperatures ..... B 762
PLATES. *See also* STRIPS
Bounds on the maximum thermoelastic stress and deflection in a beam and plate ..... AM 881
Clamped circular rigid-plastic plates under blast loading ..... AM 256
Clamped semi-infinite rectangular plates AM 205
Conditions at the root of a crack in a bent plate ..... AM 441
Creeping flow in the region between a moving wedge and a porous plate AM 691
Effect of lateral hydrostatic pressure on the instability of elastic solids, particularly beams and plates ..... AM 617
An experimental method for the transverse curvature of a triangular section plate under pure bending ..... AM 678
Influence of transverse shear and edge condition on nonlinear vibration and dynamic buckling of homogeneous and sandwich plates ..... AM 934
Large deflection in elastoplastic bending of a simply supported circular plate under a uniform load ..... AM 866
Natural frequencies of vibration of an all-clamped rectangular sandwich panel AM 683
A note on the similarities between the analyses of homogeneous and sandwich plates ..... AM 681
On fundamental solutions and Green's functions in the theory of elastic plates ..... AM 31
On the contact of two axisymmetric plates ..... AM 341
On the simple tension of an anisotropic semi-infinite plate with partially stiffened edge ..... AM 945
PLATES *(Continued)*
On the validity of the plastic theory of structures for collapse under highly localized loading ..... AM 629
PLESSET, M. S.
Cavitation bubble collapse observations in a venturi (D) ..... B 657
Effect of exposure time on cavitation damage ..... B 691
Two-phase materials attrition problems for Rankine cycle liquid metal power plants (D) ..... P 393
PLUNKETT, R.
Predicting the stability of long vertical pipe transmitting torque in a viscous medium (D) ..... I 199
PNEUMATIC DEVICES
Analysis of pneumatic controllers ..... B 287
A study of fluid squeeze-film damping B 451
POLOMIK, E. E.
Phase velocities in boiling flow systems by total energy and by diffusion ..... HT 10
POPOV, EGOR P.
Stress concentrations in thin spherical shells ..... I 231
POTTER, E. C.
A fresh look at the mechanism of corrosion in boilers (D) ..... P 384
POTTER, J. H.
A modified Gibbs experiment ..... I 278
POTTSEPP, L.
Quasi-steady flow and thrust in accelerating nozzles and channels ..... I 24
POWER CONVERSION. *See* ENERGY CONVERSION
POWER PLANTS. *See also* MAGNETOHYDRODYNAMICS
Comparison of dynamic and static power conversion systems for undersea missions ..... P 323
Radioisotope power-generating system for a manned space laboratory ..... I 129
Steam generators for combined steam and gas turbine plants ..... P 402
Trends in combined steam-gas power plants in the U. S. A. ..... P 302
Two-phase materials attrition problems for Rankine cycle liquid metal power plants ..... P 388
POWER PLANTS, GAS TURBINE
Bureau of Mines progress in developing open and closed-cycle coal-burning gas turbine power plants ..... P 313
POWER PLANTS, NUCLEAR
Compact AK process nuclear system ..... P 127
Cycles for supplying steam to desalting evaporators of dual-purpose power-generation plants ..... P 22; (D) P 283
A potassium-steam binary vapor cycle for a molten-salt reactor power plant ..... P 355
The prospects for nuclear reactor-MHD commercial power production ..... P 345
POWER PLANTS, STEAM
Cycles for supplying steam to desalting evaporators of dual-purpose power-generation plants ..... P 22; (D) P 283
PRAGER, WILLIAM
Kinematic-hardening in zinc-alloy tubes (D) ..... AM 711
Numerical and matrix methods in structural analysis (BR) ..... AM 958
PRASANNA, K. V.
Heat transfer from an oscillating horizontal wire to water and ethylene glycol (D) ..... HT 364
PRESSURE VESSELS
Design and analysis of commercial pressure vessels to 500,000 psi ..... B 500
Equibiaxial low-cycle fatigue properties of typical pressure-vessel steels ..... B 745
Optimum thin-wall pressure vessels of anisotropic materials ..... AM 623
PRODUCTION ENGINEERING
Maximum profit as the criterion in the determination of the optimum cutting conditions ..... I 435
Ultrasonic grinding economics ..... I 449
PROSSER, G. W.
Turbulence as a producer of noise in proportional fluid amplifiers ..... AM 728
PUGH, H. LI. D.
Experimental study of hydrostatic extrusion (D) ..... B 666
PULLEN, C. L.
Spectral analysis of the transient response of a system to random excitation ..... AM 700
PULSE PROPAGATION. *See* MECHANICS
PUMPS
Development of a high-temperature molten lithium pump ..... P 13
Influence of oblique channel ends on screw-pump performance ..... B 121
A multi-stage slotted blade axial flow pump ..... P 105
PUMPS, CENTRIFUGAL. *See also* DIFFUSERS; IMPELLERS
An empirical method for calculating radial pressure distribution on rotating disks ..... P 188
PUMP-TURBINES
Operating and maintenance experience with pump-turbines in Brazil ..... P 216
Operating and maintenance experience with pump-turbines in the U. S., Italy, and Japan ..... P 209
PUNCHING
Mechanics of punching circular holes in materials for data handling ..... I 377
PURI, N. N.
On the global stability of a class of nonlinear time-varying systems ..... B 399

Q

QUAN, D.
Design and development of the Orenda OT-4 gas turbine ..... P 117
QUEENER, C. A.
Mechanics of punching circular holes in materials for data handling ..... I 377
QUICK, D. H.
Effect of the starting length on mass transfer from a cone in supersonic flow HT 336

R

RAASK, E.
Slag-coal interface phenomena P 40; (AC) ..... P 286
RABINOWICZ, E. (author)
Friction and wear of materials (BR) AM 479
RADBILL, J. R.
Similitude and approximation theory (BR) ..... AM 238
RADIATION. *See also* HEAT TRANSFER
Off-specular peaks in the directional distribution of reflected thermal radiation HT 223
RADIATORS. *See* HEAT-EXCHANGE EQUIPMENT
RAILROAD MECHANICAL ENGINEERING
A computer program for determining the effect of design variation on service stresses in railroad wheels ..... I 352
Progress in railway mechanical engineering, 1964 — 1965 ..... I 341
RAJAN, MANDAYAM K. S.
Stress concentrations in thin spherical shells ..... I 231
RAMAMOORTHY, M. V.
Quadrant-edge orifice and performance at very high Reynolds numbers ..... B o
RAPID-TRANSIT SYSTEMS. *See* TRANSIT SYSTEMS
RATH, R.
Research study on internal corrosion of high-pressure boilers (D) ..... P 239
RAYEVSKII, N. P. (author)
The measurement of mechanical parameters in machines (BR) ..... AM 957
REDWOOD, R. G.
Conditions at the root of a crack in a bent plate ..... AM 441
REENTRY SIMULATION. *See* SPACE AND SPACE VEHICLES
REGNIER, EDWARD P.
Radioisotope power-generating system for a manned space laboratory ..... I 129
REICHENBACH, G. S.
Correlation of the pitting fatigue life of bearings with rolling contact rig data (D) ..... B 586
REID, WILLIAM T.
Formation of SO_3 in a noncatalytic combustor ..... P 165; (AC) P 285
Slag-coal interface phenomena (D) ..... P 285
REIS, G. C.
Phase trajectory construction of high-order, nonlinear, time-varying, nonautonomous systems ..... B 311
REISMANN, H.
Effect of water immersion on reduction of die stresses in explosive forming ..... I 111
RESTIVO, C. A.
Computer-designed vacuum vessels ..... I 251
REYNOLDS, W. C.
Laminar boundary layer on a rotating circular arc blade ..... B 111
REZY, BERNARD J., JR.
Increase in the maximum heat-release rate and apparent flame strength of opposed-jet diffusion flames under impressed electric fields ..... P 157

RHEINGANS, W. J.
Operating and maintenance experience with pump-turbines in Brazil ....P 216
Operating and maintenance experience with pump-turbines in the U. S., Italy, and Japan ....P 209
RHODES, C. A.
Hydrodynamic lubrication of partial porous metal bearings ....B 53
RICE, J. K.
A fresh look at the mechanism of corrosion in boilers (D) ....P 385
Research study on internal corrosion of high-pressure boilers ....P 232
RICE, W.
Creeping flow in the region between a moving wedge and a porous plate ....AM 691
RICHARDS, B.
Measurement of the stresses set up in a resin bonded diamond grinding wheel while grinding Harmet G6 tungsten carbide ....I 157
RICHARDS, B. R.
Chlorination of sea water — effects on fouling and corrosion ....P 203
RICHARDSON, H. H.
A study of fluid squeeze-film damping B 451
RICHARDSON, P. D.
Boiling heat transfer and two-phase flow (BR) ....AM 478
Heat transfer from an oscillating horizontal wire to water and ethylene glycol (D) ....HT 364
RIEGEL, MALCOLM S.
A computer program for determining the effect of design variation on service stresses in railroad wheels ....I 352
RIGDON, W. S.
Temperature distribution in an ablating solid ....HT 335
RILEY, W. F. (author)
Experimental stress analysis (BR) ....AM 237
Introduction to photomechanics (BR) AM 956
RIMROTT, F. P. J.
Two secondary effects in bending on slit thin-walled tubes ....AM 75
RINGS
Dynamic elastic response of a ring to transient pressure loading ....AM 261
Nonlinear flexural vibrations of thin circular rings ....AM 553
Out-of-plane free vibrations of a uniform circular ring ....AM 708
RIPKEN, J. F.
Cavitation tests in pipe bends (D) ....B 259
RIPLING, E. J.
A computer program for determining the effect of design variation on service stresses in railroad wheels (D) ....I 357
RISSANEN, J.
Drift compensation of linear systems by parameter adjustments ....B 415
RIVERS, H. M.
A fresh look at the mechanism of corrosion in boilers ....P 378
RIVERS, W. J.
Film free convection in Helium II ....HT 343
ROBINSON, D. N.
Measurement of dynamic strains using birefringent strips ....AM 173
ROCKING. *See* VIBRATION
RODS
Dynamic flexural buckling of rods within an axial plastic compression wave AM 241
Elastic wave propagation in rods of arbitrary cross section (D) ....AM 476
Impact of a nonlinear viscoplastic rod on a rigid wall ....AM 505
Longitudinal impact of a semi-infinite circular viscoelastic rod ....AM 687
Wave propagation in thin rods with quiescent temperature gradients ....AM 702
ROFFMAN, GARY
Flueric operation on pressure signals ....I 274
ROHRER, R. A.
Optimal singular solutions for linear multi-input systems ....B 323
ROHRER, W. M.
Sudden contraction losses in two-phase flow ....HT 1
ROHRIG, I. A.
Carbon and carbon-moly steam pipe after long-time service ....B 14
Creep-rupture properties of 1.25 Cr-0.5 Mo steel after service at 1000 deg F B 669
ROHSENOW, W. M.
Effects of surface conditions on nucleate pool boiling of sodium ....HT 196
Nucleate boiling instability of alkali metals ....HT 183
Heat transfer during film condensation of a liquid metal vapor ....HT 19
ROLLING. *See* BEARINGS
ROLLINS, H. M.
Effect of standoff tolerances on the fatigue life of a tool-joint pin (D) ....I 216
ROSENBERG, R. M.
On steady-state harmonic vibrations of nonlinear systems with many degrees of freedom ....AM 406
ROSENFELD, R. L.
Elastic wave propagation in rods of arbitrary cross section (AC) ....AM 477
ROSENTHAL, P.
On the mechanics of the grinding process under plunge cut conditions (D) I 79
ROSS, E. W., JR.
Asymptotic analysis of the axisymmetric vibrations of shells ....AM 85
ROTONDO, P.
Analysis of radially deformed perforated flanges ....I 172
ROTORS. *See also* VIBRATION
Balancing of flexible rotors having arbitrary and stiffness distribution ....I 217
Myklestad's method for predicting whirl velocity as a function of rotational velocity for flexible multimass rotor system (D) ....AM 472
ROTTA, J. C.
Recent developments in calculation methods for turbulent boundary layers with pressure gradients and heat transfer ....AM 429
ROULEAU, W. T.
Hydrodynamic lubrication of partial porous metal bearings ....B 53
ROWE, C. N.
Boundary lubrication ....B 606
ROY, R. J. (author)
State variable for engineers (BR) ....AM 477
ROYSTER, L. H.
Effect of linear taper on the lowest natural extensional frequency of elastic arcs ....AM 211
ROZE, N. V. (author)
Theoretical hydrodynamics (BR) ....AM 237
RUDDERS. *See* HYDROFOILS
RUFER, C. E.
Analysis of two-phase, one-component stratified flow with condensation ....HT 265
RUSHMER, R. F.
Structural analysis of an arteriole by the direct stiffness method ....I 363
RUSSELL, J. A.
Lubricant effects on fatigue in a stationary concentrated contact under vibratory loading ....B 573

S

SALERNO, V. L.
Effect of structural damping on the forced vibrations of cylindrical sandwich shells I 318
SAMANTA, B. K.
Note on the stress distribution in a rotating composite sphere ....AM 443
SANDERS, J. L., JR.
Effect of a riveted stringer on the stress in a cracked sheet ....AM 561
SANDOR, G. N.
On infinitesimal cycloidal kinematic theory of planar motion ....AM 927
SANDWICH PLATES. *See* COMPOSITE MATERIALS
SANKARANARAYANAN, R.
On the impact loading of a plastic spherical cap ....AM 704
SANN, ROBERT I.
Reciprocal theorem for harmonic oscillations of an elastic, isotropic medium I 350
SARABIA, M. F.
Heat transfer from gray fin-tube radiators HT 338
SAROFIM, A. F.
Electrical network analog to radiative transfer: allowance for specular reflection ....HT 341
Radiative exchange among non-Lambert surfaces ....HT 37
SARPKAYA, TURGUT
Experimental determination of the critical Reynolds number for pulsating Poiseuille flow ....B 589
SARTI, EUGENIO
An extension of the describing-function method ....B 469
SATELLITES. *See* SPACE AND SPACE VEHICLES
SAVE, M. A. (author)
Plastic analysis and design. vol 1, beams and frames (BR) ....AM 479
SCHAEFFER, G.
Effect of section size on notch strength B 675
SCHARTON, T. D.
Fatigue failure under complex stress histories ....B 247
SCHETZ, J. A.
Analytic approximations of boundary-layer problems ....AM 425
SCHIJVE, J.
Fatigue failure under complex stress histories (D) ....B 250
SCHILLING, R. J.
An interferometric study of mass transfer from a vertical plate at low Reynolds numbers ....HT 399
SCHLICHTING, H.
Recent research on cascade-flow problems ....B 221
SCHNETZER, E.
A potassium-steam binary vapor cycle for a molten-salt reactor power plant (D) P 364
SCHOEFFLER, J. D.
The design of nonlinear multivariable control systems from state dependent linear models ....B 355
SCHOENHALS, R. J.
Dynamic analysis and experimental measurements for a single fluid heat exchanger ....HT 137
Turbulent free convection in near-critical water ....HT 407
SCHULENBERG, FRANZ J.
Finned elliptical tubes and their application in air-cooled heat exchangers ....I 179
SCHWARTZ, L.
Minimization of solar radiation pressure effects for gravity-gradient stabilized satellites ....B 444
SCHWARZ, H.
Application of gas bearings to closed-system Brayton-cycle turbomachinery — recent accomplishment and potential problem areas ....P 367
SCOTT, G. J.
Electron microscopy of stress-induced structural alterations near inclusions in bearing steels (D) ....B 571
SCOTT, J. E., JR.
The dynamics of real gases (BR) ....AM 237
SEA WATER
Chlorination of sea water — effects on fouling and corrosion ....P 203
SEBAN, R. A.
Effect of suction and injection on the heat transfer and flow in a turbulent separated airflow ....HT 276
SEDOV, L. I. (author)
Introduction to the mechanics of a continuous medium (BR) ....AM 238
Two-dimensional problems in hydrodynamics and aerodynamics (BR) ....AM 237
SEETHARAMIAH, K.
Quadrant-edge orifice and performance at very high Reynolds numbers ....B 9
SEGEL, L.
Force and moment response to pneumatic tires to lateral motion inputs ....I 37
On the lateral stability and control of the automobile as influenced by the dynamics of the steering system ....I 283
SEROVY, G. K.
Recent progress in aerodynamic design of axial-flow compressors in the United States ....P 251
SHAFFER, BERNARD W.
Reciprocal theorem for harmonic oscillations of an elastic, isotropic medium I 350
SHAFTS
Elastic-plastic solutions for notched shafts in torsion ....AM 79; (D) AM 954
Vibration of unsymmetrical rotating shafts (D) ....AM 231
SHAW, M. C.
A plasticity problem involving plane strain and plane stress simultaneously: groove formation in the machining of high-temperature alloys ....I 142
Ultrasonic grinding economics ....I 449
SHAW, R. P.
Effect of water immersion on reduction of die stresses in explosive forming (D) I 116
SHEAR. *See* STRESSES AND STRAINS
SHFARER, J. L.
Transmission of fluid power by pulsating-flow (P-F) concept in hydraulic systems (D) ....B 321
SHEETS. *See also* STRIPS
Effect of a riveted stringer on the stress in a cracked sheet ....AM 561
Single-edge crack in rectangular sheet subjected to end rotations ....AM 689
SHEETS, HERMAN E.
A multi-stage slotted blade axial flow pump ....P 105
SHELDON, G. L.
Mechanism of material removal in the erosive cutting of brittle materials ....I 393
On the ductile behavior of nominally brittle materials during erosive cutting ....I 387

SHELDON, R. C.
Steam generators for combined steam and gas turbine plants (D) ..... P 407
SHELLEY, JOSEPH F.
Effect of two rigid spherical inclusions on the stresses in an infinite elastic solid AM 68; (AC) AM 718
SHELLS. *See also* BUCKLING
Asymptotic analysis of the axisymmetric vibrations of shells ..... AM 85
Axially symmetric motions of a two-layered Timoshenko-type cylindrical shell ..... AM 838
Creep rupture of rotating disks and thin shells of revolution (D) ..... AM 477
Deformation of open spherical shells under arbitrarily located concentrated loads ..... AM 305
Effect of pressurization on the cylindrical shell under nearly uniform radial impulse ..... AM 454
Effect of structural damping on the forced vibrations of cylindrical sandwich shells ..... I 318
Elastic cylindrical shell under radial impulse ..... AM 831
Elastic response of thin spherical shells to axisymmetric blast loading ..... AM 800
Experimental and analytical investigation of the film - conductance - coefficient boundary condition for thermal shock of a conical shell (A) ..... AM 474
Experimental buckling modes of clamped shallow shells under concentrated load ..... AM 297
First-harmonic self-equilibrating bending of complete elastic circular cylindrical shells ..... AM 226
Instability of cylindrical shells subjected to axisymmetric moving loads ..... AM 289
Interaction of critical pressures and critical concentrated loads acting on shallow spherical shells ..... AM 612
Nonaxisymmetric behavior of shallow shells loaded at the apex ..... AM 699
A note on calculation of waves in a cylindrical shell ..... AM 694
On the impact pressure loading of a plastic spherical cap ..... AM 704
On the validity of the plastic theory of structures for collapse under highly localized loading ..... AM 629
Point load on a shallow elliptic paraboloid ..... AM 575
Relations among stresses, stress resultants, and moments for the axisymmetric elastic shell problem ..... AM 455
Significance of the concentrated load in the limit analysis of conical shells AM 93
Some experiments on the vibration of a hemispherical shell ..... AM 817
Stress concentration in nonlinear creep of a simple shell ..... AM 322
Stress concentrations in thin spherical shells ..... I 231
Stress-discontinuity propagation in a cylindrical shell under a moving ring load AM 465
Vibration of shallow spherical shells with concentrated mass ..... AM 938
SHEPHERD, W. M.
Conditions at the root of a crack in a bent plate ..... AM 441
SHERMAN, A. (author)
Engineering magnetohydrodynamics (BR) AM 478
SHIELD, R. T.
On the validity of the plastic theory of structures for collapse under highly localized loading ..... AM 629
SHIELDS, J. RODGER
Steam generators for combined steam and gas turbine plants (D) ..... P 408
SHINOZUKA, M.
First-passage time in a random vibrational system (D) ..... AM 953
SHIPS
Gas turbine engines in the Royal Canadian Navy prototype hydrofoil vessel P 139
SHIR, C. C.
Lubrication of a porous bearing — Reynolds' solution ..... AM 761
SHOCK
Shocks and vibration concepts in engineering design (BR) ..... AM 957
SHUTTLEWORTH, A.
Vanadium pentoxide deposition from combustion gases ..... P 173
SIBLEY, L. B.
Correlation of the pitting fatigue life of bearings with rolling contact rig data (D) ..... B 587
SIH, G. C.
Three - dimensional stress distribution around an elliptical crack under arbitrary loadings ..... AM 601
SIMILARITY THEORY. *See also* APPROXIMATION THEORY
Introduction to the theory of similarity (BR) ..... AM 239
SIMON, R.
Dimensionless parameter reliability analysis and application to mechanical creep ..... B 87
SIMSON, A. K.
Gain characteristics of subsonic pressure-controlled, proportional, fluid-jet amplifiers ..... B 295
SINCLAIR, G. M.
Parameter representation of low-temperature yield behavior of body-centered cubic transition metals ..... B 518
SKALAK, R.
Impact on the surface of a compressible fluid ..... I 325
SLABS. *See* THERMOELASTICITY
SLITER, JOHN A.
A computer program for determining the effect of design variation on service stresses in railroad wheels ..... I 352
SLOSHING
Some studies of nonlinear lateral sloshing rigid containers ..... AM 777
SMITH, C. W.
Experimental and analytical investigation of the film - conductance - coefficient boundary condition for thermal shock of a conical shell (D) ..... AM 474
SMITH, J.
Bureau of Mines progress in developing open and closed-cycle coal-burning gas turbine power plants ..... P 313
SMITH, J. H.
Microstructural alterations of rolling — bearing steel undergoing cyclic stressing (D) ..... B 566
SMITH, J. O.
Experimental and analytical investigation of the film-conductance-coefficient boundary condition for thermal shock of a conical shell (AC) ..... AM 474
SMITH, L. H., JR.
Radial-equilibrium equation of turbomachinery ..... P 1; (AC) P 282
Wake dispersion in turbomachines ..... B 688
SMITH, R. V.
Temperature and scale effects upon cavitation and flashing in free and submerged jets (D) ..... B 532
SMITH, T. C.
Mechanics of punching circular holes in materials for data handling ..... I 377
SMITH, W. E.
Relationship of prior creep exposure to strength of wrought Udimet 700 nickel-base alloy ..... B 4
SNECK, H. J.
Condensing vapor lubrication of self-acting long journal bearings (D) ..... B 245
Fluid-film bearings ..... B 603
SNOW CORNICE THEORY. *See* FLOW OF FLUIDS
SNYDER, W. T.
The mean viscous dissipation and bulk temperature variation in incompressible fully developed duct heat transfer ..... HT 330
SOBRAL, M., JR.
Optimal singular solutions for linear multi-input systems ..... B 323
SODIUM. *See* LIQUID METALS
SOEHNGEN, E. E.
Experimental investigation of a magnetically balanced arc in a transverse Argon flow (D) ..... P 279
SOKOLOVSKII, V. V. (author)
Statics of granular media (BR) ..... AM 239
SOLAR ENERGY
Solar energy progress report — 1965 ..... P 221
SOLIDIFICATION
Macroscopic interface shape during solidification ..... HT 45
SONTOWSKI, J. F.
Multiparameter pertubation solution of algebraic equations ..... AM 218
SORTAIS, H. C.
Experimental study of hydrostatic extrusion ..... B 658
SPACE AND SPACE VEHICLES
Attitude stability of a spinning satellite in an elliptic orbit ..... AM 402
Comparison between exact and one-dimensional theories for incipient melting in reentry simulation ..... HT 428
Libration analysis of a dumbbell satellite using the WKBI method ..... AM 676
Minimization of solar radiation pressure effects for gravity-gradient stabilized satellites ..... B 444
Radioisotope power-generating system for a manned space laboratory ..... I 129
SPARROW, E. M.
Analog solution of laminar heat transfer in noncircular ducts by Moiré method and point-matching (D) ..... HT 182
Experiments on turbulent heat transfer in an asymmetrically heated rectangular duct ..... HT 170
Flow and heat transfer in ducts of arbitrary shape with arbitrary thermal boundary conditions ..... HT 351
Laminar forced convection of a dissipative fluid in a channel (D) ..... HT 168
Off-specular peaks in the directional distribution of reflected thermal radiation HT 223
Radiative exchange among non-Lambert surfaces (D) ..... HT 43
Radiative heat exchange between conducting plates with specular reflection (D) HT 36
Transient heat conduction in a prolate spheroidal solid ..... HT 331
Turbulent diffusivity for momentum transfer in concentric annuli ..... B 550
Turbulent heat transfer in the separated, reattached, and redevelopment regions of a circular tube ..... HT 131
Turbulent pipe flow of an internally heat generating fluid ..... HT 314
SPHERES
A contact stress problem for a rigid smooth sphere in an extended elastic solid (D) ..... AM 475
Dynamic vibrations and stresses in elastic cylinders and spheres ..... AM 825
Note on the stress distribution in a rotating composite sphere ..... AM 443
On some problems in spherically isotropic elastic materials ..... AM 539
SPIER, EDWARD E.
Nonlinear bending of a stress corrosion specimen ..... I 31
SPILLERS, W. R.
A note on calculation of waves in a cylindrical shell ..... AM 694
SPRAGUE, R. A.
Effect of creep exposure on the fracture toughness of two low alloy steels ..... B 7
SQUEEZE FILMS
The non-Newtonian squeeze film ..... B 687
SRIDHAR, R.
Sequential estimation of states and parameters in noisy nonlinear dynamical systems ..... B 362
STABILITY. *See also* AUTOMATIC CONTROL
On nonconservative stability problems of elastic systems with slight damping AM 125
On the almost sure stability of linear dynamic systems with stochastic coefficients (D) ..... AM 234
On the almost sure stability of linear stochastic distributed-parameter dynamical systems ..... AM 182
Stability and oscillations of elastic systems (BR) ..... AM 479
Stability charts for second-order dynamical systems with time lag ..... AM 119
Stability criteria for second-order dynamical systems with time lag ..... AM 113
STACHIEWICZ, J. W.
Influence of tube orientation on combined free and forced laminar convection heat transfer ..... HT 109
STACKS. *See* CHIMNEYS
STEAM
Sixth International Conference on the properties of steam — supplement on transport properties ..... P 63
Sixth International Conference on the properties of steam — transport properties of water substance ..... P 82
STEAM GENERATORS. *See* BOILERS
STEAM-WATER MIXTURES. *See also* BOILING
Maximum two-phase vessel blowdown from pipes ..... HT 285
A simplifying concept of the critical region ..... HT 323
Sixth International Conference on the properties of steam — transport properties of water substance ..... P 82
STEEL
The Bauschinger effect in a high-strength steel ..... B 480
Creep-rupture properties of 1.25 Cr-0.5 Mo steel after service at 1000 deg F B 669
Effect of prior creep exposure on 1400 F strength of Inco 713 cast nickel-base alloy ..... B 109
Effect of strain rate on yielding in high strength steels ..... B 37
Equibiaxial low-cycle fatigue properties of typical pressure-vessel steels ..... B 745
Fracture toughness determinations of A-302B and Ni-Mo-V steels with various size specimens ..... B 783

STEEL *(Continued)*

Low cycle fatigue crack propagation characteristics of high strength steels B 792
Relationship of prior creep exposure to strength of wrought Udimet 700 nickel-base alloy B 4
Stress-corrosion susceptibility of high-strength steel, in relation to fracture toughness B 777

STEEPEST-ASCENT METHOD
A simplified steepest-ascent method AM 452

STEIN, RALPH P.
Experiments on turbulent heat transfer in an asymmetrically heated rectangular duct (D) HT 174

STEPHENSON, J. M.
Temperature and scale effects upon cavitation and flashing in free and submerged jets B 525

STERNBERG, E.
Three-dimensional stress concentration around a cylindrical hole in a semi-infinite elastic body AM 855

STERNLICHT, B.
Comparison of dynamic and static power conversion systems for undersea missions P 323

STEWART, I. J.
Mechanism of material removal in the erosive cutting of brittle materials (D) I 399

STOECKLY, E. E.
Development of the General Electric LM 1500 gas turbine as a marine power plant P 144

STRAINS. *See* STRESSES AND STRAINS

STREET, R. L.
Wall effect in cavity flow (D) B 136

STRENGTH OF MATERIALS
Long-term rupture strength of alloys and plastics from tensile strength at elevated temperatures B 762

STRESSES AND STRAINS. *See also* DEFORMATION; FRACTURE MECHANICS; THERMAL STRESSES; THERMOELASTICITY; WAVE MECHANICS
Analysis of a semi-infinite strip with constant stress flanges under concentrated loads AM 571
An arc crack around a circular elastic inclusion AM 637
Bounds on the maximum thermoelastic stress and deflection in a beam and plate AM 881
A complete stress function solution in the dynamic linear theory of incompressible elastic bodies AM 206
Compressive strain-rate tests on six selected materials at strain rates from 10^{-3} to 10^{4} in/in./sec AM 496
Concentrated force near a smooth circular inclusion AM 871
A contact stress problem for a rigid smooth sphere in an extended elastic solid (D) AM 475
Contact stresses between a rigid indenter and a viscoelastic half-space AM 845
Determination of the yield condition in the third quadrant of the stress plane AM 228
Diffractions of horizontal shear waves by a parabolic cylinder and dynamic stress concentrations AM 785
Dynamic stresses around a fluid-filled cavity AM 793
Dynamic vibrations and stresses in elastic cylinders and spheres AM 825
Effect of a riveted stringer on the stress in a cracked sheet AM 561
Effect of a riveted stringer on the stress in a sheet with a circular cutout AM 198
Effect of lateral hydrostatic pressure on the instability of elastic solids, particularly beams and plates AM 617
Effect of strain on yielding in high strength steels B 36
Effect of the rotation of the stress axes on the yield criterion of prestrained materials B 61
Effect of two rigid spherical inclusions on the stresses in an infinite elastic solid AM 68; (D) AM 715
Elastic response of thin spherical shells in torsion AM 79; (D) AM 954
Elastic response of thin spherical shells to axisymmetric blast loading AM 800
Exact solution for isochoric shear flow of stress rate fluids with constitutive equation linear in stress AM 936
Experimental stress analysis (BR) AM 237
Instability strains in plane sheet under biaxial stress AM 282
Interaction of critical pressures and critical concentrated loads acting on shallow spherical shells AM 612

STRESSES AND STRAINS *(Continued)*

Measurement of dynamic strains using birefringent strips AM 173
Nonaxisymmetric behavior of shallow shells loaded at the apex AM 699
A note on the uniqueness of solutions for dynamically loaded rigid-plastic and rigid-viscoplastic continua AM 207
Moiré patterns of partial derivatives of displacement components AM 901
Note on the stress distribution in a rotating composite sphere AM 443
On a spheroidal elastic inclusion in a transversely isotropic material under an axisymmetric torsion field AM 944
On the impact pressure loading of a plastic spherical cap AM 704
On the simple tension of an anisotropic semi-infinite plate with partially stiffened edge AM 945
On the validity of the plastic theory of structures for collapse under highly localized loading AM 629
One-dimensional stress-wave propagation in a heterogeneous medium AM 947
Point load on a shallow elliptic paraboloid AM 575
A procedure for calculating the stresses in a centrifugal impeller with cover disk P 395
Pure torsion of an infinite solid containing two rigid spherical inclusions AM 201
Quasi-static stresses due to moving temperature discontinuity on a plane boundary AM 814
Relations among stresses, stress resultants, and moments for the axisymmetric elastic shell problem AM 455
Response of a layered half-space to a moving load AM 680
Shock waves produced by small stress increments in annealed aluminum AM 907
Slip strains and stresses in polycrystalline aggregates under cyclic load AM 363
Strain-gradient effects around cylindrical inclusions and cavities in a field of cylindrically symmetric tension AM 57
Strain-rate effects in the propagation of torsional plastic waves AM 917
Stress concentrations in thin spherical shells I 231
Stress-discontinuity propagation in a cylindrical shell under a moving ring load AM 465
Stress distribution in bonded dissimilar materials containing circular or ring-shaped cavities (D) AM 714
Stress field created by a circular sliding contact AM 371
Stress-intensity factors for the tension of an eccentrically cracked strip AM 674
Stress interference in three-dimensional torsion (D) AM 471
Stresses around an elliptical hole in a finite plate subjected to axial loading AM 192
Stresses in an infinite strip containing a semi-infinite crack AM 356
Three-dimensional stress concentration around a cylindrical hole in a semi-infinite elastic body AM 855
Three-dimensional stress distribution around an elliptical crack under arbitrary loadings AM 601
Torsional instability of cantilevered bars subjected to nonconservative loading AM 102
Wave propagation in an anisotropic medium with couple-stresses AM 939

STRESS CORROSION. *See* CORROSION

STRIMBECK, D. C.
Bureau of Mines progress in developing open and closed-cycle coal-burning gas turbine power plants P 313

STRINGS
On the nonlinear oscillation of an axially moving string AM 463

STRIPS
Analysis of a semi-infinite strip with constant stress flanges under concentrated loads AM 571

STRONGE, W. J.
Vibrations due to an excitation with uniformly varying frequency AM 462

STRUCTURAL ANALYSIS
Numerical and matrix methods in structural analysis (BR) AM 958

STRUCTURES
On a simplified method for solving impulsively loaded structures of rate-sensitive materials (D) AM 470
On the validity of the plastic theory of structures for collapse under highly localized loading AM 629

STUBNER, A. W.
Supersonic cascade tunnel used to evaluate compressor blade performance P 153

SUBLIMATION
A note on small amplitude vibration of a subliming disk above a heated plate HT 333

SUBMARINES. *See* UNDERWATER RESEARCH AND TECHNOLOGY

SUKHATME, S. P.
Heat transfer during film condensation of a liquid metal vapor HT 19

SUTHERLAND, R. A.
Operating and maintenance experience with pump-turbines in the U. S., Italy, and Japan (D) P 214

SUTHERLAND, W. A.
Heat transfer in parallel rod arrays HT 117

SUTTON, G. W. (author)
Engineering magnetohydrodynamics (BR) AM 478

SUZUKI, SHIN-ICHI
Dynamic elastic response of a ring to transient pressure loading AM 261

SWAGING. *See* METAL FORMING

SWETZ, S. D.
Flow losses in abrupt enlargements and contractions P 73; (AC) P 284

SYNIUTA, WALTER D.
Lubricant effects on fatigue in a stationary concentrated contact under vibratory loading (D) B 580

SYSTEMS THEORY
State variables for engineers (BR) AM 477

SZEWALSKI, R. T.
Two-phase materials attrition problems for Rankine cycle liquid metal power plants (D) P 393

T

TADJBAKHSH, I.
Large-amplitude free vibrations of a beam (D) AM 711

TAKAHASHI, YASUNDO
An extension of the describing-function method B 469

TAKEYAMA, H.
A study of the normal and shear stresses on a cutting tool (D) I 63

TANG, SAM
Effect of lateral hydrostatic pressure on the instability of elastic solids, particularly beams and plates AM 617

TANG, SING-CHIH
Stress-discontinuity propagation in a cylindrical shell under a moving ring load AM 465
Traveling force on a Timoshenko beam (D) AM 231

TANG, TUNG-MEN
Vibration analysis of large high-speed rotating equipment (D) I 209

TANNER, R. I.
Friction and wear of materials (BR) AM 479

TAO, L. N.
Lubrication of a porous bearing — Stokes' solution AM 753

TAYGUN, F.
Bureau of Mines progress in developing open and closed-cycle coal-burning gas turbine power plants (D) P 320

TCHAMRAN, A.
On a class of constrained control, linear regulator problems B 385

TENSION. *See* STRESSES AND STRAINS

TERRILL, R. M.
A possibility of Eigensolutions for laminar flow in a porous channel AM 200

TESTA, R. B.
Longitudinal impact of a semi-infinite circular viscoelastic rod AM 687

TESTING. *See also* METAL TESTING
Effect of section size on notch strength B 675

THAL-LARSEN, H.
Fluid center-line-velocity effect on fluid-temperature transients in a heat exchanger B 408

THAU, S. A.
Diffractions of horizontal shear waves by a parabolic cylinder and dynamic stress concentrations AM 785

THEN, J. W.
Hydrodynamic gyroscope AM 768

THEOCARIS, P. S.
Inelastic buckling of rib-cored sandwich cylinders under external hydrostatic pressure AM 593

THEOCLITUS, G.
Heat-transfer and flow-friction characteristics of nine pin-fin surfaces HT 383

THERMAL STRESSES
Experimental and analytical investigation of the film - conductance - coefficient boundary condition for thermal shock of a conical shell (D) ..... AM 474
Stress-intensity factors for thermal stresses in thick hollow cylinders ..... B 45
Thermal stress and low cycle fatigue (BR) ..... AM 957
Thermoelastic stresses in thick-walled cylinders under axial temperature gradient ..... AM 467
THERMODYNAMICS. *See also* HEAT TRANSFER
Air tables (BR) ..... AM 238
Consequences of an inequality in nonequilibrium thermodynamics ..... AM 481
Dynamics of real air from subcritical temperatures to 1500 K ..... AM 662
Principles of general thermodynamics (BR) ..... AM 479
A simplifying concept of the critical region ..... HT 323
Theory of nonequilibrium thermodynamics with application to the transport processes in a solid ..... HT 57
Thermodynamic properties of combustion products: Equilibrium products of $(CH_2)_k$ with oxygen enriched air .... P 334
THERMOELASTICITY
On the solution to transient coupled thermoelastic problems by perturbation techniques (D) ..... AM 475
Quasi-static stresses due to moving temperature discontinuity on a plane boundary ..... AM 814
Some fundamental thermoelastic problems in orthotropic slabs ..... AM 45
Temperature induced in a medium due to a suddenly applied pressure inside a spherical cavity ..... AM 941
A transformation in coupled thermoelasticity problems ..... AM 196
THIRUVENGADAM, A.
Effect of exposure time on cavitation damage (D) ..... B 704
High-frequency fatigue of metals and their cavitation-damage resistance ..... I 332
THOMAS, M. A.
Combined free and forced convection in a horizontal circular tube (D) ..... HT 153
THOMSON, WILLIAM T.
Probability distribution of bilinear system response to impulse excitation ..... AM 384
THORPE, J. F.
Fully developed laminar flow in a stepped rectangular channel ..... AM 438
THURMAN, A. L.
A plasticity problem involving plane strain and plane stress simultaneously; groove formation in the machining of high-temperature alloys ..... I 142
THURSTON, G. A.
Newton's method applied to problems in nonlinear mechanics (AC) ..... AM 234
TILLER, W. A.
Macroscopic interface shape during solidification (D) ..... HT 50
TIMKO, CHARLES A.
An ion-drag thrust bearing ..... B 143
TING, T. C. E.
Impact of a nonlinear viscoplastic rod on a rigid wall ..... AM 505
TING, T. C. T.
Contact stresses between a rigid indenter and a viscoelastic half-space ..... AM 845
TIRES
Force and moment response of pneumatic tires to lateral motion inputs ..... I 37
TITANIUM
Modern metals machining technology .... I 65
TOMLINSON, L. O.
Trends in combined steam-gas turbine power plants in the U. S. A. (D) ..... P 311
TONELLI, A. DUANE
Radioisotope power-generating system for a manned space laboratory ..... I 129
TONG, L. S. (author)
Boiling heat transfer and two-phase flow (BR) ..... AM 478
TOOL JOINTS. *See* JOINTS
TORRANCE, K. E.
Off-specular peaks in the directional distribution of reflected thermal radiation ..... HT 223
TORSION. *See* STRESSES AND STRAINS
TOWERS
Dynamic stability design of stacks and towers ..... I 462
TRANSDUCERS
The measurement of mechanical parameters in machines (BR) ..... AM 957
TRANSIT SYSTEMS
Basic theory of rapid-transit tunnel ventilation ..... I 1
TREASTER, A. L.
Cavitation hysteresis ..... B 199
TROIANO, A. R.
Externally pressurized foil gas bearings (AC) ..... B 284
TRUESDELL, C. (author)
The non-linear field theories of mechanics (BR) ..... AM 958
Six lectures on modern natural philosophy (BR) ..... AM 957
TRUMPLER, P. R.
Nyklestad's method for predicting whirl velocity as a function of rotational velocity for flexible multimass rotor systems (D) ..... AM 472
Vibration analysis of large high-speed rotating equipment (D) ..... I 209
TRUMPLER, PAUL ROBERT (author)
Design of film bearings (BR) ..... AM 957
TSANG, S.
Plastic bending of beams considering die friction effects ..... I 237
TUBA, I. S.
Elastic - plastic solutions for notched shafts in torsion ..... AM 79; (AC) AM 956
TUBES AND TUBING. *See also* PIPES
Combined free and forced convection in a horizontal circular tube ..... HT 147
Dimensional changes in tube swaging .... I 147
Finned elliptical tubes and their application in air-cooled heat exchangers ..... I 179
Heat-transfer effects on the developing laminar flow inside vertical tubes .... HT 214
Kinematic-hardening in zinc-alloy tubes (D) ..... AM 710
Two secondary effects in bending of slit thin-walled tubes ..... AM 75
Variable property effects on the inside surface temperature of a heated tube HT 340
TUCKER, J. T.
Equibiaxial low-cycle fatigue properties of typical pressure-vessel steels ..... B 745
TUNG, T. K.
Slip strains and stresses in polycrystalline aggregates under cyclic load ..... AM 363
TURBINES
On a wave phenomenon in turbines ..... P 262
TURBOMACHINERY. *See also* ROTORS
Application of gas bearings to closed-system Brayton-cycle turbomachinery — recent accomplishment and potential problem areas ..... P 367
An empirical method for calculating radial pressure distribution on rotating disks ..... P 188
Radial-equilibrium equation of turbomachinery ..... P 1; (D) P 282
Recent research on cascade-flow problems ..... B 221
Use of arbitrary quasi-orthogonals for calculating flow distribution in a turbomachine ..... P 197
Wake dispersion in turbomachines ..... B 688
TURNER, J. R.
Flow losses in abrupt enlargements and contractions (D) ..... P 283
TWO-PHASE SYSTEMS. See STEAM-WATER MIXTURES
TYAGI, V. P.
Forced convection of a dissipative liquid in a channel with Neumann conditions AM 18
Laminar forced convection of a dissipative fluid in a channel ..... HT 161

U

UENG, C. E. S.
Natural frequencies of vibration of an all-clamped rectangular sandwich panel AM 683
A note on the similarities between the analyses of homogeneous and sandwich plates ..... AM 681
On certain approximations in sandwich plate analysis (D) ..... AM 953
ULTRASONIC MACHINING
Ultrasonic grinding economics ..... I 449
UNCERTAINTY
Uncertainty and imprecision ..... P 369
UNDERWATER RESEARCH AND TECHNOLOGY
Comparison of dynamic and static power conversion system for undersea missions ..... P 323
UNTERBERG, W.
Condensing vapor lubrication of self-acting long journal bearings ..... B 236
URANIUM
Some mechanical properties of uranium-10 weight percent molybdenum alloy under dynamic tension loads ..... B 509

V

VACUUM VESSELS
Computer-designed vacuum vessels ..... I 251
VALANIS, K. C.
Exact and variational solutions to a general viscoelasto-kinetic problem ..... AM 888
VAN DEUSEN, B. D.
On the lateral stability and control of the automobile as influenced by the dynamics of the steering system (D) ..... I 294
VAN SANT, J. H.
Convection heat transfer for turbulent flow in subsonic diffusers ..... HT 391
Variable property effects on the inside surface temperature of a heated tube HT 340
VAUGHN, ROBERT L.
Modern metals machining technology .... I 65
VEHICLES. *See* AUTOMOTIVE ENGINEERING; MOTOR VEHICLES
VIBRATION. *See also* OSCILLATION
Asymptotic analysis of the axisymmetric vibrations of shells ..... AM 85
A correspondence principle for free vibrations of a viscoelastic solid ..... AM 924
Dynamic vibrations and stresses in elastic cylinders and spheres ..... AM 825
Dynamics of vibrations (BR) ..... AM 956
Effect of linear taper on the lowest natural extensional frequency of elastic arcs ..... AM 211
Effect of structural damping on the forced vibrations of cylindrical sandwich shells ..... I 318
Effects of longitudinal inertia upon the parametric response of elastic columns ..... AM 141
First-passage time in a random vibrational system ..... AM 187; (D) AM 953
Harmonic rocking of a rigid rectangular body on a semi-infinite elastic medium AM 547
Influence of transverse shear and edge condition on nonlinear vibration and dynamic buckling of homogeneous and sandwich plates ..... AM 934
Large-amplitude free vibrations of a beam (D) ..... AM 711
Natural frequencies of vibration of an all-clamped rectangular sandwich panel AM 683
Nonlinear flexural vibrations of thin circular rings ..... AM 353
Normal modal vibrations for some damped *n*-degree-of-freedom nonlinear systems ..... AM 877
A note on small amplitude vibration of a subliming disk above a heated plate HT 333
On steady state harmonic vibrations of nonlinear systems with many degrees of freedom ..... AM 406
On the transient motion of a rigid spherical inclusion in an elastic medium and its inverse problem ..... AM 807
On the vibrations of parabolic membranes ..... I 45
One-dimensional theories of wave propagation and vibrations in elastic bars of rectangular cross section ..... AM 489
Out-of-plane free vibrations of a uniform circular ring ..... AM 708
Plate and rod vibrations with initial stress ..... AM 134
Rational approximations for the lower frequencies of a uniform beam with concentrated mass or rotary inertia AM 445
Shocks and vibration concepts in engineering design (BR) ..... AM 957
Some experiments on the vibration of a hemispherical shell ..... AM 817
Some first-passage problems in random vibration ..... AM 532
Spectral analysis of the transient response of a system to random excitation .... AM 700
Steady-state harmonic and combination response of a nonlinear dynamic vibration absorber ..... AM 213
Theoretical and experimental band saw vibrations ..... I 151
Traveling-wave vibration of gas-turbine engine shells ..... P 179
Upper and lower bounds of frequencies for cantilever bars of variable cross sections ..... AM 948
Vibration analysis of large high-speed rotating equipment ..... I 201
Vibration of shallow spherical shells with concentrated mass ..... AM 938
Vibration of unsymmetrical rotating shafts (D) ..... AM 231
Vibrations due to an excitation with uniformly varying frequency ..... AM 462

VISCOELASTICITY
Contact problem for viscoelastic bodies AM 395
Contact stresses between a rigid indenter and a viscoelastic half-space AM 845
A correspondence principle for free vibrations of a viscoelastic solid AM 924
Exact and variational solutions to a general viscoelasto-kinetic problem AM 888
Nonlinear viscoelasticity for short time ranges AM 313
Prediction of the transient response of a linear viscoelastic solid AM 449
VISKANTA, R.
Radiant heat transfer between concentric spheres and coaxial cylinders HT 326
VOLTERRA, E. (author)
Dynamics of vibrations (BR) AM 956
Upper and lower bounds of frequencies for cantilever bars of variable cross sections AM 948
VUKSTA, THOMAS, JR.
A procedure for calculating the stresses in a centrifugal impeller with cover disk (D) P 401

W

WADE, R. B.
Experimental observations on the flow past a plano-convex hydrofoil B 273
WAGNER, HANS
Large-amplitude free vibrations of a beam (AC) AM 712
WALKER, J. A.
An integral method of Liapunov function generation for nonlinear autonomous systems (AC) AM 713
WALLACE, P. W.
A study of the normal and shear stresses on a cutting tool (D) I 61
WALLIS, G. B.
Experimental studies of turbulent flow in a porous circular tube with uniform fluid injection through the tube wall (D) AM 950
WALOWIT, J. A.
A theory of lubrication by microirregularities B 177
WANG, CHANG-YI
On a class of exact solutions of the Navier-Stokes equations AM 696
WANG, I-CHIH
A contact stress problem for a rigid smooth sphere in an extended elastic solid (AC) AM 476
WANG, P. K. C.
On the almost sure stability of linear dynamic systems with stochastic coefficients (D) AM 234
On the almost sure stability of linear stochastic distributed-parameter dynamical systems AM 182
WANG, PING-CHUN (author)
Numerical and matrix methods in structural analysis (BR) AM 958
WATANABE, KIYOKAZU
On correlating the peak and minimum boiling heat fluxes with pressure and heater configuration HT 94
WATER
Sixth International Conference on the properties of steam — transport properties of water substance P 82
WATER BELLS
Influence of gravity upon the shape of water bells AM 457
WATER DESALINATION. *See also* CONDENSERS
Cycles for supplying steam to desalting evaporators of dual-purpose power-generation plants P 22; (D) P 283
WATERS, E. O.
Analysis of radially deformed perforated flanges (D) I 176
WAVE MECHANICS
An approximate procedure for the solution of a class of transient-wave diffraction problems AM 168
Diffractions of horizontal shear waves by a parabolic cylinder and dynamic stress concentrations AM 785
Dynamic stresses around a fluid-filled cavity AM 793
Elastic wave propagation in rods of arbitrary cross section (D) AM 476
Exact and variational solutions to a general viscoelasto-kinetic problem AM 888
A note on calculation of waves in a cylindrical shell AM 694
On wave propagation in thermoplastic media AM 514
One-dimensional stress-wave propagation in a heterogeneous medium AM 947
WAVE MECHANICS *(Continued)*
One-dimensional theories of wave propagation and vibrations in elastic bars of rectangular cross section AM 489
Plane waves in an elastic-plastic half-space due to combined surface pressure and shear AM 149
Propagation of discontinuous waves on nonuniform Timoshenko beams AM 706
Shock waves produced by small stress increments in annealed aluminum AM 907
Strain-rate effects in the propagation of torsional plastic waves AM 917
A unified approach to cylindrical and spherical elastic waves by method of characteristics AM 159
Wave propagation in an anistotropic medium with couple-tresses AM 939
Wave propagation in thin rods with quiescent temperature gradients AM 702
Waves in bars of mechanically unstable materials AM 267
WAYMEYER, W. K.
A nonlinear filter for independent gain and phase (with applications) B 457
WEAR. *See also* BEARINGS; LUBRICANTS AND LUBRICATION
Friction and wear B 608
Friction and wear of materials (BR) AM 479
WEBSTER, G. R.
Design requirements for MC-331 vehicles I 258
WEDGES
Creeping flow in the region between a moving wedge and a porous plate AM 691
Deformation of an elastic spherical wedge AM 52
WEIGHTS AND MEASURES
Uncertainty and imprecision B 369
WEINSTEIN, A. S.
Effects of nonsymmetry in strip rolling on single-roll drive mills (D) I 408
WEISS, LEONARD
State variables for engineers (BR) AM 477
WEISS, V.
Effect of section size on notch strength B 675
WEISSENBERGER, STEIN
An integral method of Liapunov function generation for nonlinear autonomous systems (D) AM 712
Stability-boundary approximations for relay-control systems via a steepest-ascent construction of Liapunov functions B 419
WEITSMAN, Y.
Strain-gradient effects around cylindrical inclusions and cavities in a field of cylindrically symmetric tension AM 57
WELDING
Impact strength of austenitic stainless-steel welds at —320 F — effects of composition, ferrite content, and heat-treatment B 33
WENG, CHENG-KUO
Transmission of fluid power by pulsating-flow (P-F) concept in hydraulic systems B 316
WHIRL. *See* ROTORS
WHIRL, S. F.
A fresh look at the mechanism of corrosion in boilers (D) P 386
WHITEHOUSE, N. D.
Derivation of a formula for the thermal loading of certain internal-combustion engines P 45
WHITELAW, J. H.
Sixth International Conference on the Properties of Steam — Transport properties of water substance P 82
WHITTIER, J. S.
Axially symmetric motions of a two-layered Timoshenko-type cylindrical shell AM 838
WIDNER, R. L.
Propagation of contact fatigue from surface and subsurface origins B 624
WIEDERHIELM, C. A.
Structural analysis of an arteriole by the direct stiffness method I 363
WILCOX, W. R.
Macroscopic interface shape during solidification HT 45
WILDIN, M. W.
Radiative heat transfer through an absorbing boundary layer HT 296
WILKINSON, J. P.
Deformation of open spherical shells under arbitrarily located concentrated loads AM 305
WILLEMS, N.
Experimental verification of the dynamic stability of a tangentially loaded cantilever column AM 460
WILMS, E. V.
Temperature induced in a medium due to a suddenly applied pressure inside a spherical cavity AM 941
WILSON, D. G.
Flow losses in abrupt enlargements and contractions (D) P 284
WILSON, H. B., JR.
A contact stress problem for a rigid smooth sphere in an extended elastic solid (D) AM 475
WILSON, PAUL E.
Nonlinear bending of a stress corrosion specimen I 31
WITTE, A. B.
Prediction of heat transfer from laminar boundary layers, with emphasis on large free-stream velocity gradients and highly cooled walls HT 249
WOJTOWICZ, W. J.
Metalworking lubricants B 612
WONHAM, W. M.
On a class of constrained control, linear regulator problems (D) B 391
WOOD, G. M.
Development of a high-temperature molten lithium pump P 13
Two-phase materials attrition problems for Rankine cycle liquid metal power plants (D) P 394
WOODRUFF, L. W.
Heat transfer measurements from a partially dissociated gas with high Lewis number HT 415
WOOLLATT, D.
Application of unsteady gas-dynamic theories to the exhaust system of turbocharged two-stroke engines P 31
WORKMAN, J. W.
Dynamic stresses around a fluid-filled cavity AM 793
WOZNIAK, ROBERT S.
Dynamic stability design of stacks and towers (D) I 466
WRIGHT, T. W.
Plate and rod vibrations with initial stress AM 134
WU, C. H.
Predicting the stability of long vertical pipe transmitting torque in a viscous medium (D) I 199
WU, J. C.
Quasi-steady flow and thrust in accelerating nozzles and channels I 24
WU, S. H.
The use of Lur'e forms to establish a sufficient condition for stability of a class of discrete feedback systems with parallel nonlinear elements B 379
WU, S. M.
An exploratory study of Taylor's tool-life equation by power transformations I 81
Maximum profit as the criterion in the determination of the optimum cutting conditions I 435

Y

YAMANAMI, S.
A study of fluid squeeze-film damping B 451
YANG, AN TZU
Acceleration analysis of spatial four-link mechanisms I 296
YANG, C. T.
Cryogenic temperature dependence of the yield strength of high-strength alloys I 117
YANG, C. Y.
Propagation of discontinuous waves in nonuniform Timoshenko beams AM 706
YANG, KWANG-TZU
Laminar film condensation on a vertical nonisothermal plate AM 203
YANG, WEI HSUIN
Contact problem for viscoelastic bodies AM 395
YELLOTT, J. I.
Solar energy progress report — 1965 P 221
YEW, C. H.
Strain-rate effects in the propagation of torsional plastic waves AM 917
YOGANANDA, C. V.
The end problem of hollow cylinders AM 685
YOUNG, J. O.
Effects of cavitation on periodic wakes behind symmetric wedges B 163
YOSHIDA, K.
Sheet metal forming research in Japan I 101
YOUNGDAHL, C. K.
Three-dimensional stress concentration around a cylindrical hole in a semi-infinite elastic body AM 855

YU, YI-YUAN
Effect of structural damping on the forced vibrations of cylindrical sandwich shells (D) ..... I 324
Effect of two rigid spherical inclusions on the stresses in an infinite elastic solid AM 68; (AC) AM 718
Influence of transverse shear and edge condition on nonlinear vibration and dynamic buckling of homogeneous and sandwich plates ..... AM 934
YUKAWA, S.
Fracture toughness determinations of A-302B and Ni-Mo-V steels with various size specimens ..... B 783

Z

ZABORSZKY, J.
Functional representation of nonlinear systems, interpolation and Lagrange expansion for functionals ..... B 429
ZACHMANOGLOU, E. C. (author)
Dynamics of vibrations (BR) ..... AM 956
ZALAVADIA, JAYANT V.
Effects of particle injection on natural gas flame radiation ..... P 111
ZARETSKY, E. V.
Microstructural alterations of rolling — bearing steel undergoing cyclic stressing (D) ..... B 566
ZEITLIN, A.
Design and analysis of commercial pressure vessels to 500,000 psi (D) ..... B 507
ZIERING, M. B.
Electrical network analog to radiative transfer: allowance for specular reflection ..... HT 341
ZINSMEISTER, G. E.
Thermal flowmeters: the effect of axial conduction ..... HT 64
ZOGBAUM, R. F., JR.
Gear lubrication ..... B 602
ZORDOWSKI, CARL F.
Effects of nonsymmetry in strip rolling on single-roll drive mills ..... I 401